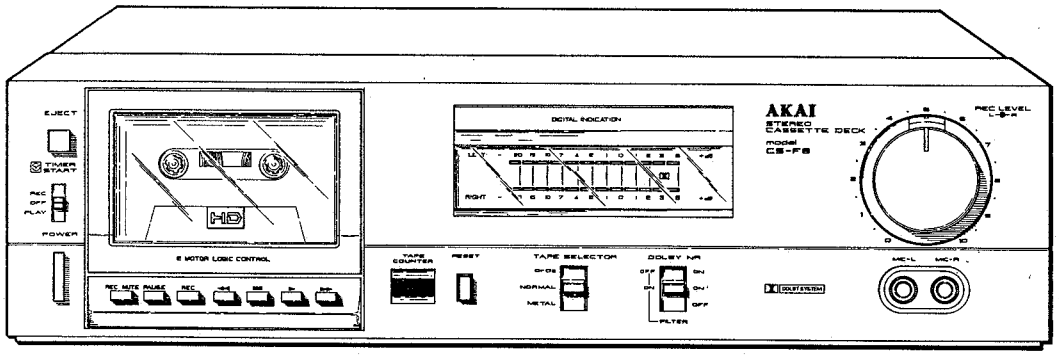
AKAI SERVICE MANUAL



CS-F9/J

STEREO CASSETTE DECK

MODEL CS-F9/J

STEREO CASSETTE DECK

MODEL CS-F9/J

THIS MANUAL IS APPLICABLE TO BOTH SILVER AND BLACK PANEL MODELS

SECTION 1	SERVICE MANUAL	3
SECTION 2	PARTS LIST	25
SECTION 3	SCHEMATIC DIAGRAM	38

SECTION 1

SERVICE MANUAL

TABLE OF CONTENTS

I. **TECHNICAL DATA** 4
II. **DISMANTLING OF UNIT** 5
III. **CONTROLS** 6
IV. **PRINCIPAL PARTS LOCATION** 7
V. **VOLTAGE AND CYCLE CONVERSION** 8
1. VOLTAGE CONVERSION 8
2. CYCLE CONVERSION 8
VI. **MECHANICAL ADJUSTMENT** 9
1. FLYWHEEL LOOSE PLAY ADJUSTMENT 9
2. PLUNGER POSITIONING 10
3. PINCH ROLLER PRESSURE MEASUREMENT 10
4. VARIOUS TORQUE MEASUREMENT 10
5. TAPE SPEED ADJUSTMENT 10
VII. **HEAD ADJUSTMENT** 11
1. RECORDING/PLAYBACK HEAD AZIMUTH ALIGNMENT 11
VIII. **AMPLIFIER ADJUSTMENT** 12
IX. **DC RESISTANCE OF VARIOUS COILS** 14
X. **CLASSIFICATION OF VARIOUS P.C BOARDS** 14
1. P.C BOARD TITLES AND IDENTIFICATION NUMBERS 14
2. COMPOSITION OF VARIOUS P.C BOARDS 15

For basic adjustments, measuring methods, and operating principles, refer to GENERAL TECHNICAL MANUAL.

I . TECHNICAL DATA

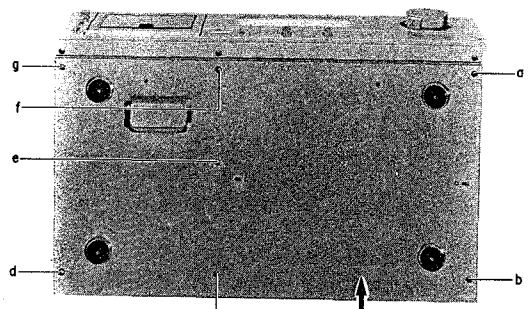
TRACK SYSTEM	4 Track 2 Channel Stereo System
TAPE	Philips Type Cassette
TAPE SPEED	4.76 cm/s ± 1.0% (1–7/8 ips. ± 1.0%)
HEADS	Erase head x 1 High density metallic head for recording/playback x 1
MOTORS	Electronically speed controlled DC motor for capstan drive x 1 DC motor for reel drive x 1
WOW & FLUTTER	Less than 0.04% WRMS, 0.11% (DIN 45500)
TAPE WINDING TIME	80 sec. using a C-60 cassette tape
FREQUENCY RESPONSE	Normal: 30 to 15,000 Hz ± 3 dB (–20 VU) CrO_2: 30 to 16,000 Hz ± 3 dB (–20 VU) 30 to 8,000 Hz ± 3 dB (0 VU) Metal: 30 to 18,000 Hz ± 3 dB (–20 VU) 30 to 12,500 Hz ± 3 dB (0 VU)
SIGNAL TO NOISE RATIO	Normal: Better than 57 dB CrO_2: Better than 59 dB Metal: Better than 59 dB (measured via tape with peak recording level) Dolby NR switch ON: Improves up to 10 dB above 5 kHz
HARMONIC DISTORTION	Normal: Less than 0.8% CrO_2: Less than 0.8% Metal: Less than 0.8%
INPUT	MIC: 0.25 mV (input impedance 5.0 kohms) Required microphone impedance: 600 ohms Line: 70 mV (input impedance 47 kohms)
OUTPUT	Line: 410 mV at 0 VU Required load impedance: more than 20 kohms
POWER REQUIREMENTS	100V, 50/60 Hz for JPN 120V, 60 Hz for Canada 220V, 50 Hz for Europe except UK 240V, 50 Hz for UK and Australia 110V/120V/220V/240V, 50/60 Hz internally switchable for other countries.
POWER CONSUMPTION	U/T, CSA, 21W, JPN, 19W
DEMENSIONS	440 (W) x 118 (H) x 285 (D) mm (17.3 x 4.6 x 11.2")
WEIGHT	6.8 kg (15.0 lbs)

* For improvement purposes, specifications and design are subject to change without notice.
* "Dolby" and the Double D symbol are trademarks of Dolby Laboratories. (Manufactured under license from Dolby Laboratories).

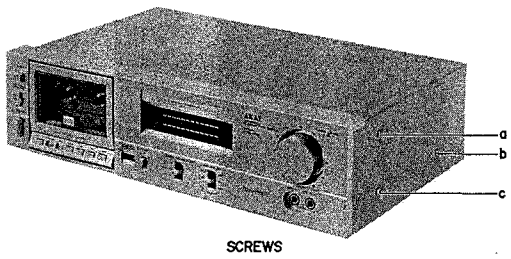
II. DISMANTLING OF UNIT

In case of trouble, etc. necessitating dismantling, please dismantle in the order shown in the phtographs. Reassemble in reverse order.

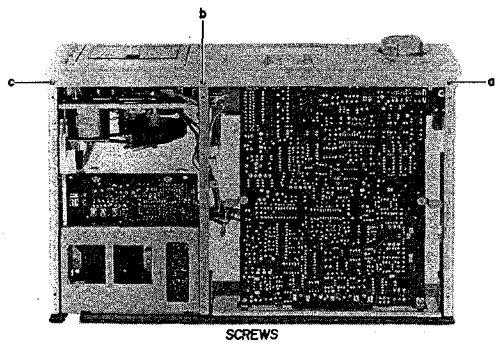
5



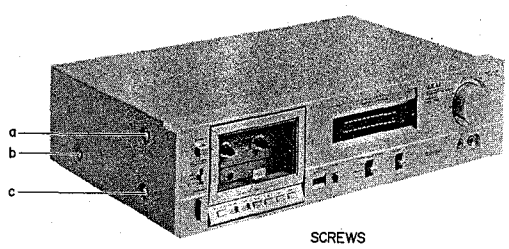
1



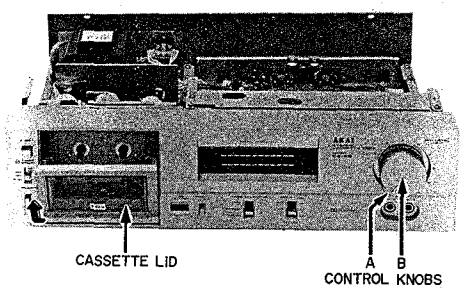
6



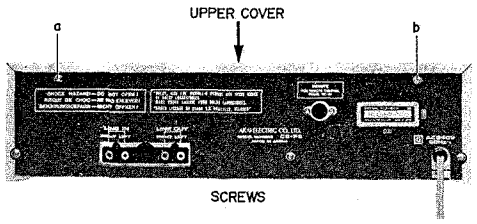
2



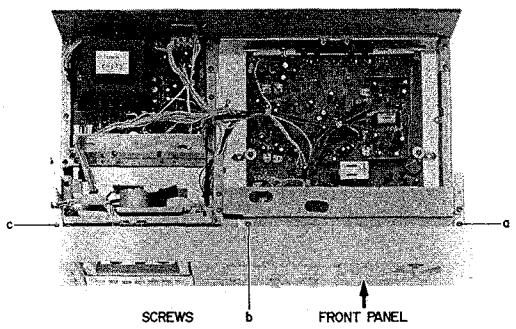
7



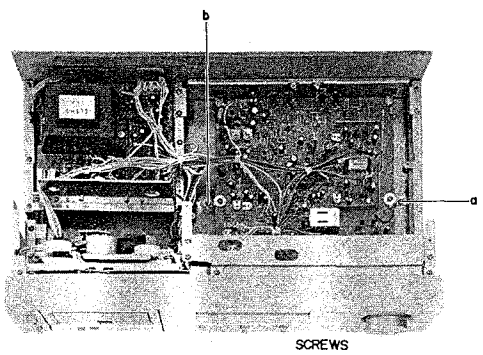
3



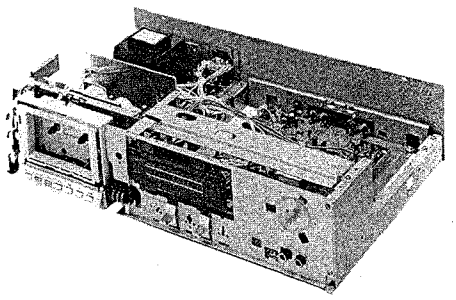
8



4



9



III. CONTROLS

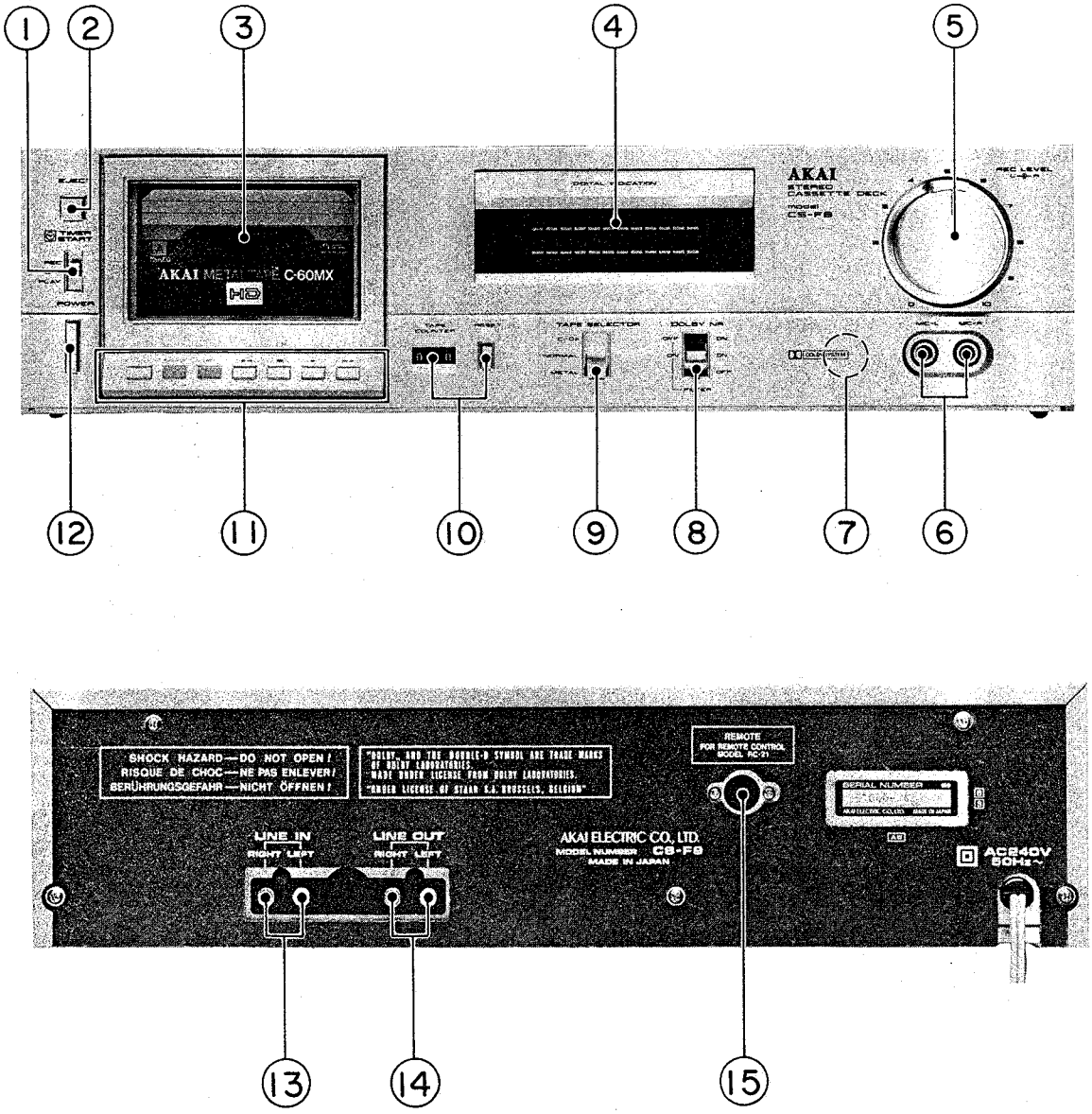


Fig. 1 Controls

1. TIMER START SWITCH
2. EJECT BUTTON
3. CASSETTE RECEPTACLE
4. LED BAR METERS (LEFT AND RIGHT)
   VU METER (JPN MODEL ONLY)
5. LEFT-◉-RIGHT RECORDING LEVEL CONTROLS
6. MICROPHONE JACK (MIC-L: LEFT, MIC-R: RIGHT)
7. HEADPHONE JACK (JPN MODEL ONLY)
8. DOLBY NR AND FILTER SWITCH
9. TAPE SELECTOR
10. TAPE COUNTER AND RESET BUTTON
11. OPERATING BUTTONS
12. POWER SWITCH
13. LINE IN JACKS (RIGHT AND LEFT)
14. LINE OUT JACKS (RIGHT AND LEFT)
15. REMOTE CONTROL JACK

IV. PRINCIPAL PARTS LOCATION

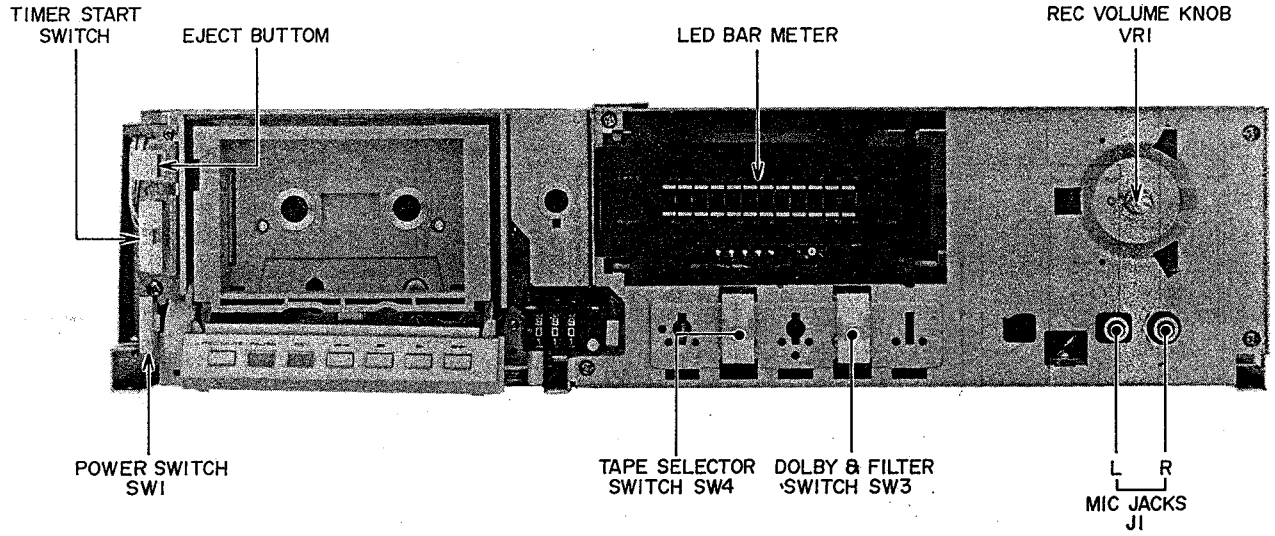


Fig. 2 Front View

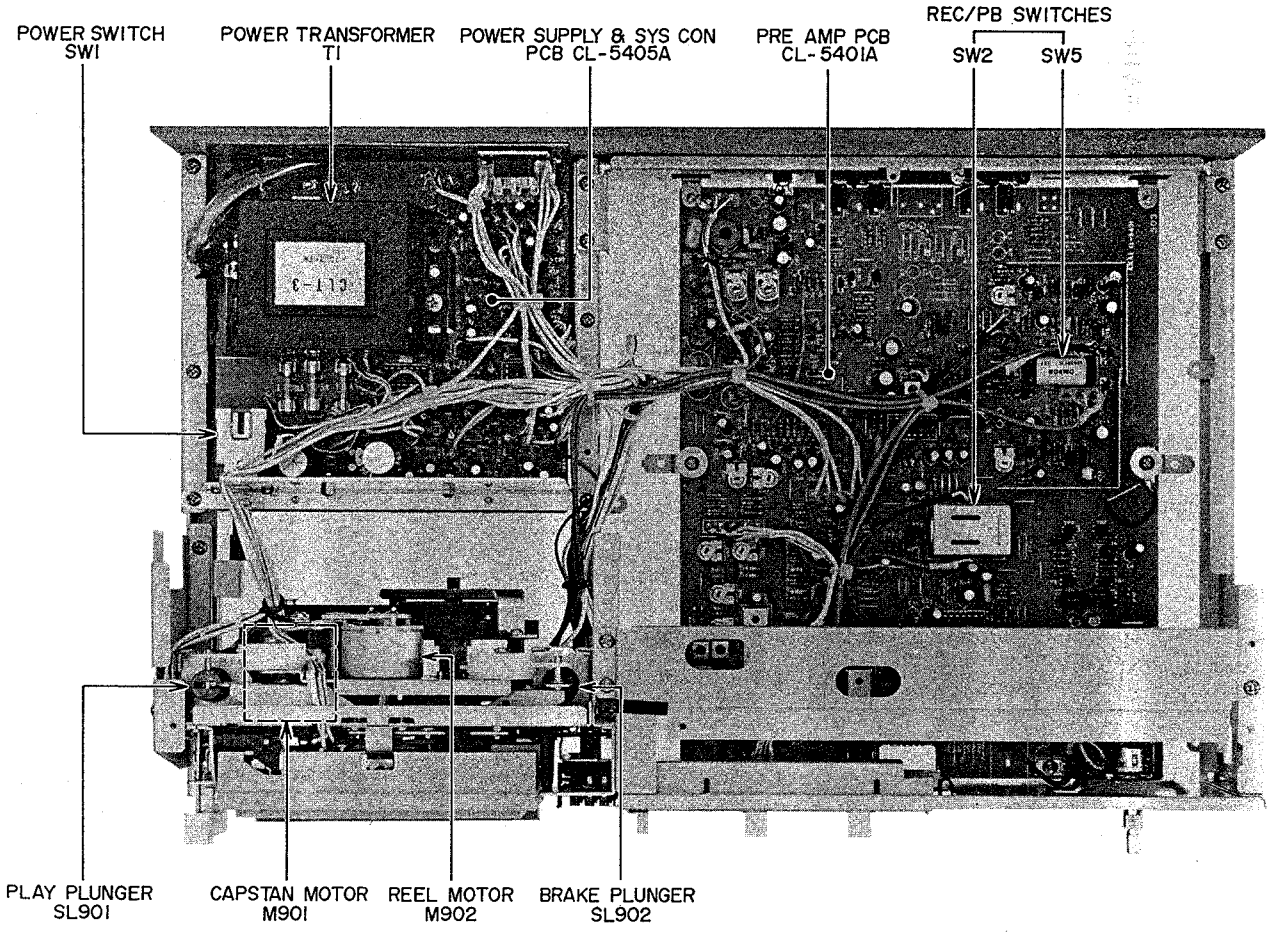


Fig. 3 Top View

V. VOLTAGE AND CYCLE CONVERSION

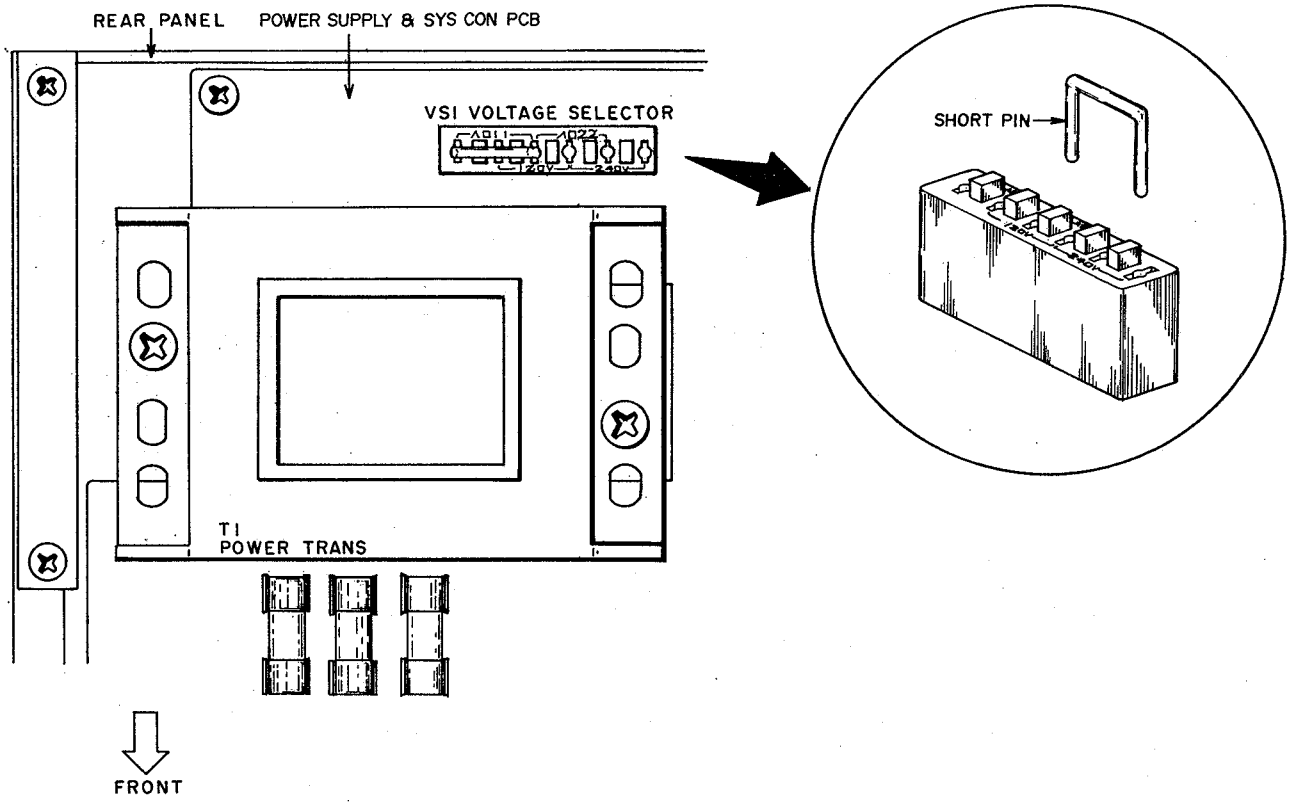


Fig. 4 Voltage Conversion (U/T Model only)

1. Voltage Conversion

Models for Canada, Europe, UK, Australia and Japan are not equipped with this facility. Each machine is preset at the factory according to destination, but some machines can be set to 110V, 120V, 220V or 240V as required. If voltage change is necessary, this can be accomplished as follows:

1. Disconnect power cord.
2. Loosen holding screws and remove upper cover.
3. Remove short pin plug from present holes and replace in correct holes. Follow the markings explicitly.

2. Cycle Conversion

With DC motor, cycle conversion is not necessary.

VI. MECHANICAL ADJUSTMENT

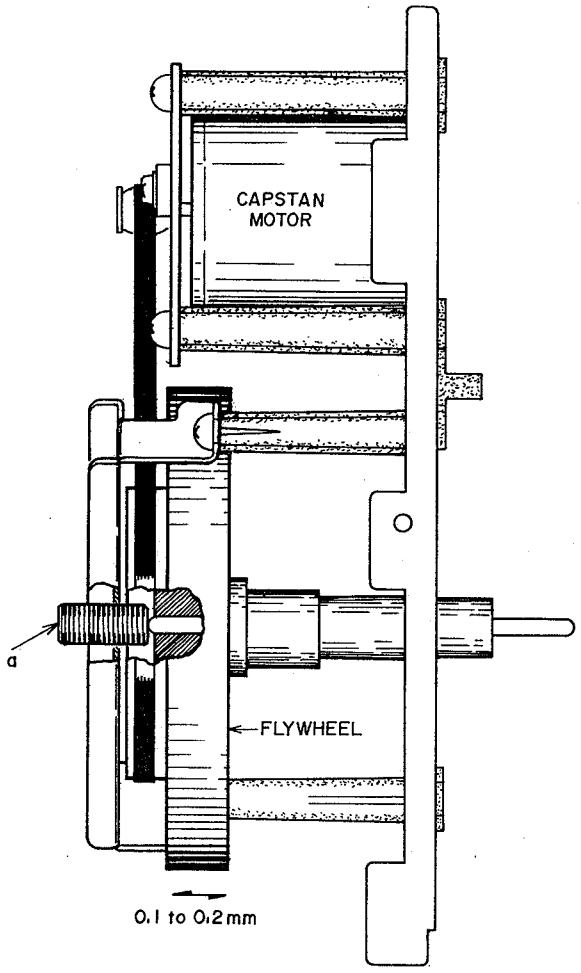


Fig. 5

1. Flywheel Loose Play Adjustment
(Refer to Fig. 5)

Adjust the screw (a) so that the flywheel moves 0.1 – 0.2 mm in the direction indicated by the arrow.

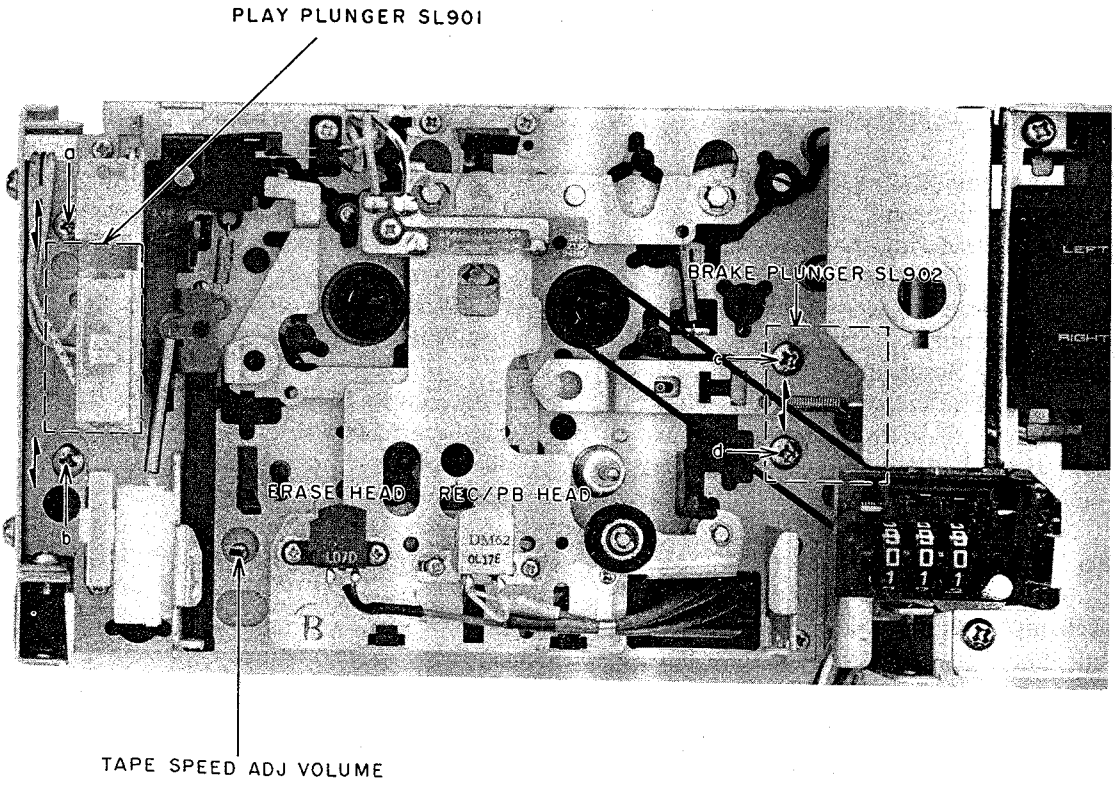


Fig. 6

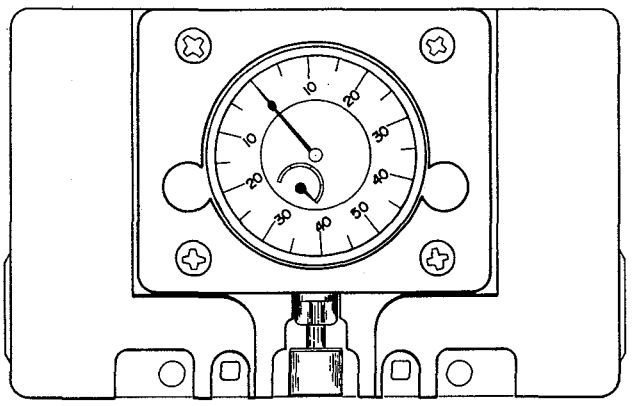


Fig. 7 AKAI Head Projection Gauge

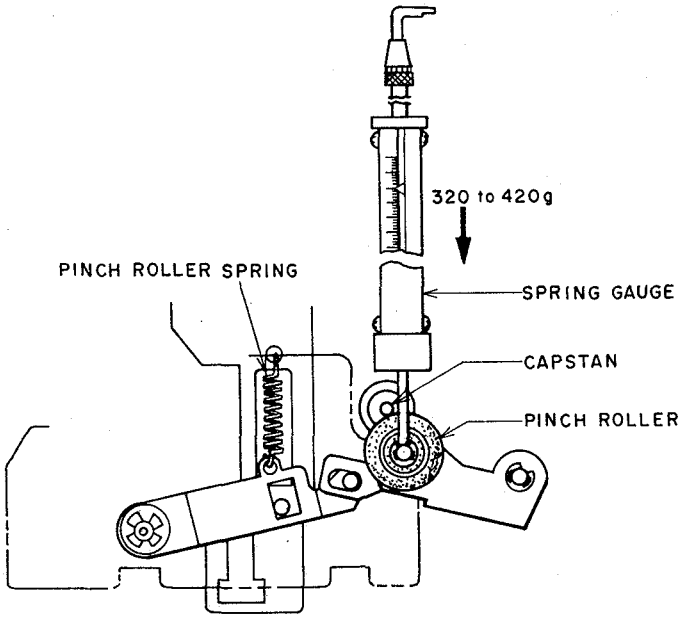


Fig. 8

2. Plunger positioning (Refer to Figs. 6, 7)

1) Play Plunger Adjustment
Set the Akai Head Projection Gauge. Adjust the screws (a) and (b) so that when PAUSE mode is engaged, the Head Projection Gauge indicates to 2.5 mm ±0.05 mm.

2) Brake Plunger Adjustment
Set the Akai Head Projection Gauge. Adjust the screws (c) and (d) so that when play mode is engaged, the Head Projection Gauge indicates to 3.5 mm ±0.15 mm.

3. Pinch Roller Pressure Measurement (Refer to Fig. 8)

At playback mode, push the pinch roller with a spring gauge until the pinch roller separates from the capstan by about 1 mm to 2 mm and then gently return. Take a reading of the spring gauge indication at the moment the pinch roller touches the capstan and begins to rotate

Specified Pinch Roller Pressure: 320 – 420g

4. Various Torque Measurement

Use the Cassette Torque Meter to confirm that the value of each mode is as follows:

Take-up Torque	35 ~ 50 g-cm
Back Tension	2 ~ 4 g-cm
FF/RWD Torque	85 ~ 130 g-cm

5. Tape Speed Adjustment (Refer to Fig. 6)

Playback a 1,000 Hz pre-recorded test tape and adjust the tape speed adjustment volume to obtain a tape speed of 1,000 Hz ±5 Hz.

VII. HEAD ADJUSTMENT

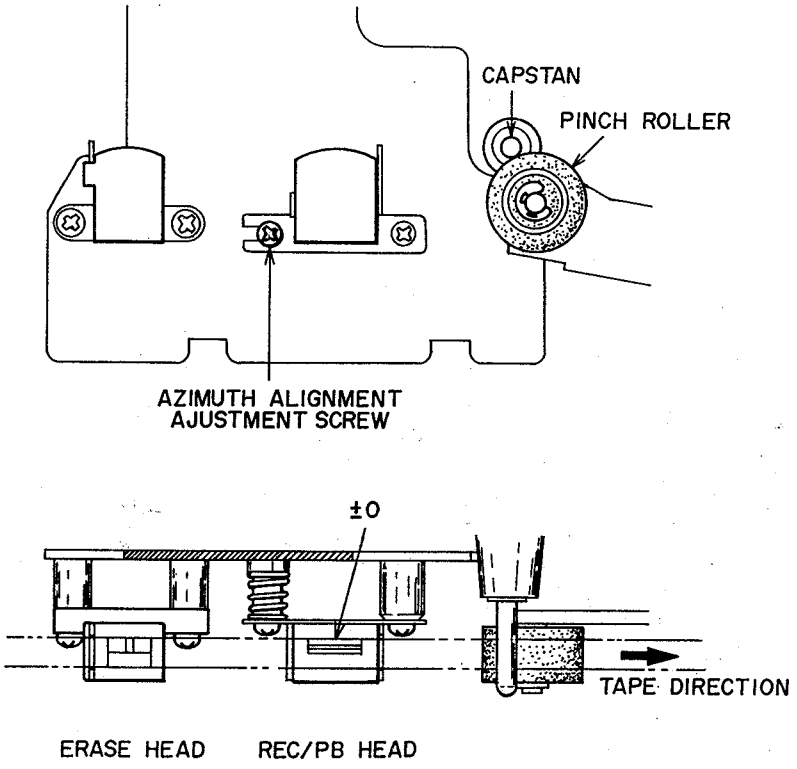


Fig. 9

1. Recording/Playback Head Azimuth Alignment (Refer to Fig. 9)

a) Playback a 10 kHz pre-recorded cassette azimuth alignment test tape and adjust screw shown in Fig. 9 to obtain maximum output on both channels.

b) Invert cassette and confirm that the output level does not change from that obtained in Item 1-a) above.
If the output level differs, adjust in the same way as in Item 1-a) above until both sides of the test tape display equal output.

Notes: 1. Be sure to clean the heads prior to head adjustment.
2. Be careful not to use a magnetized driver or other magnetized tools in the vicinity of the heads.
3. Be sure to demagnetize the heads with a Head Demagnetizer before and after head adjustment.

VIII. AMPLIFIER ADJUSTMENT

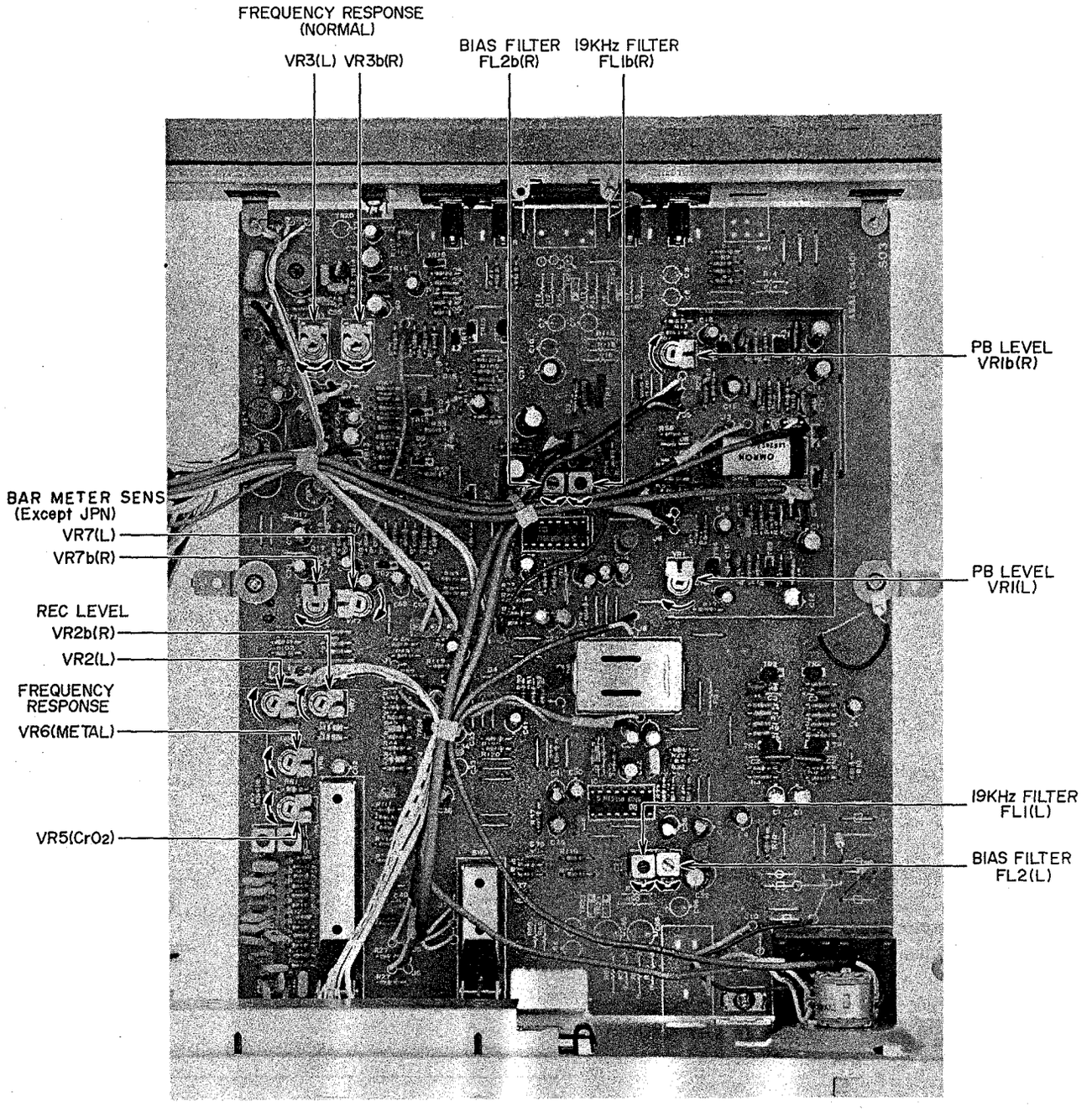


Fig. 10 Pre Amp P.C Board CL-5401A

Step	Adjustment Item	Test Tape Supply Signal	Mode	Adjustment Point	Result	Remarks
1	Playback Level	333 Hz, 0 VU Test Tape	PB	VR1 50 kB	−5.5 ± 0.5 dBm (410 mV)	
2	Bar Meter Sensitivity (Except JPN)	1,000 Hz −5.5 dBm from oscillator	REC	VR7 20 kB	0 VU indication	
3	Normal Position Frequency Response	Normal Blank tape 1,000 Hz, 10,000 Hz −25.5 dBm recording	REC /PB	VR3 50 kB	1,000 Hz to 10,000 Hz flat	
4	CrO_2 Position Frequency Response	CrO_2 Blank tape 1,000 Hz, 10,000 Hz −25.5 dBm recording	REC /PB	VR5 100 kB	1,000 Hz to 10,000 Hz flat	Set tape selector to CrO_2 position.
5	Metal Position Frequency Response	Metal Blank tape 1,000 Hz, 10,000 Hz −25.5 dBm recording	REC /PB	VR6 50 kB	1,000 Hz to 10,000 Hz flat	Set tape selector to Metal position
6	Recording Level	Normal Blank tape 1,000 Hz, −5.5 dBm recording	REC /PB	VR2 30 kB	−5.5 ± 0.5 dBm	
7	Distortion Factor Confirmation	1,000 Hz −5.5 dBm recording	REC /PB		Normal < 0.8% CrO_2 < 0.7% Metal < 0.7%	NOTE 4
8	Bias Filter	No signal input	REC	FL2	AC Voltmeter indicates to minimum	Set tape selector to Metal position. Set REC Volume to maximum. NOTE 6.
9	19 kHz Filter Adjustment	19 kHz from oscillator	REC	FL1	AC Voltmeter indicates to minimum	Set Dolby NR switch to ON, Filter ON position. NOTE 5, 6.

NOTES: 1. Except for Step 4, 5, 7 and 8, set Tape Selector to NORMAL Position.
2. Except for step 9, set Dolby NR switch to OFF Position.
3. Use the following cassette measuring tapes:
   Normal Tape : Maxell UD C-60
   CrO_2 Tape : TDK SA C-60
   Metal Tape : TDK MA-C C-60
4. If it does not comply with the specifications, repeat Steps 3 to 6 and readjust.
5. Adjust the oscillator's frequency to give a frequency counter reading of 19.00 kHz.
6. Unless the core is moved unintentionally this adjustment is not necessary.

IX. DC RESISTANCE OF VARIOUS COILS

Description	Name	DC Resistance
REC/PB Head	RP-2442-DM-6210	280 ohms ± 20%
Erase Head	HF213151	3.5 ohms
Play and Brake Plunger	1240PLT	90 ohms ± 10%

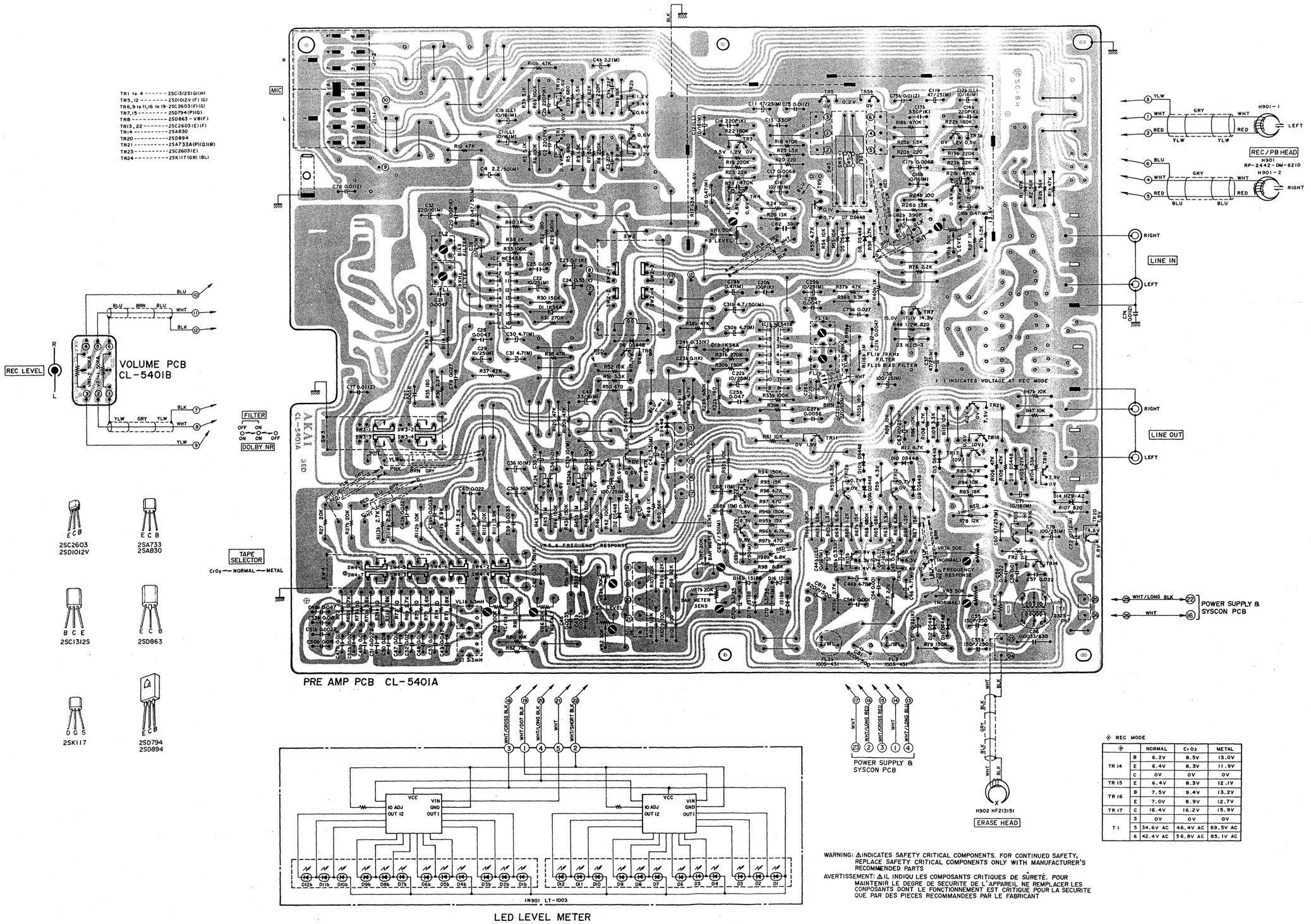
X. CLASSIFICATION OF VARIOUS P.C BOARDS

1. P.C BOARD TITLES AND IDENTIFICATION NUMBERS

P.C Board Title	P.C Board Number	Remarks
Pre Amp P.C Board	CL-5401A	
Volume P.C Board	CL-5401B	
Power Supply & Syscon P.C Board (U)	CL-5402A	U/T
Power Supply & Syscon P.C Board (J)	CL-5413A	JPN
Power Supply & Syscon P.C Board (EBS)	CL-5405A	CEE, UK, SAA
Power Supply & Syscon P.C Board (C)	CL-5406A	CSA
Remo Con P.C Board (U)	CL-5402B	U/T
Remo Con P.C Board (J)	CL-5413B	JPN
Remo Con P.C Board (EBS)	CL-5405B	CEE, UK, SAA
Remo Con P.C Board (C)	CL-5406B	CSA
Detector P.C Board	CL-5010	
Lamp P.C Board	CL-5009	
Filter P.C Board	CL-5026	

2. Composition of Various P.C Boards

1) Pre Amp P.C Board (U/T, CEE, UK, SAA, CSA) CL-5401A (3ED) Volume P.C Board CL-5401B (2ED)



※ REC MODE

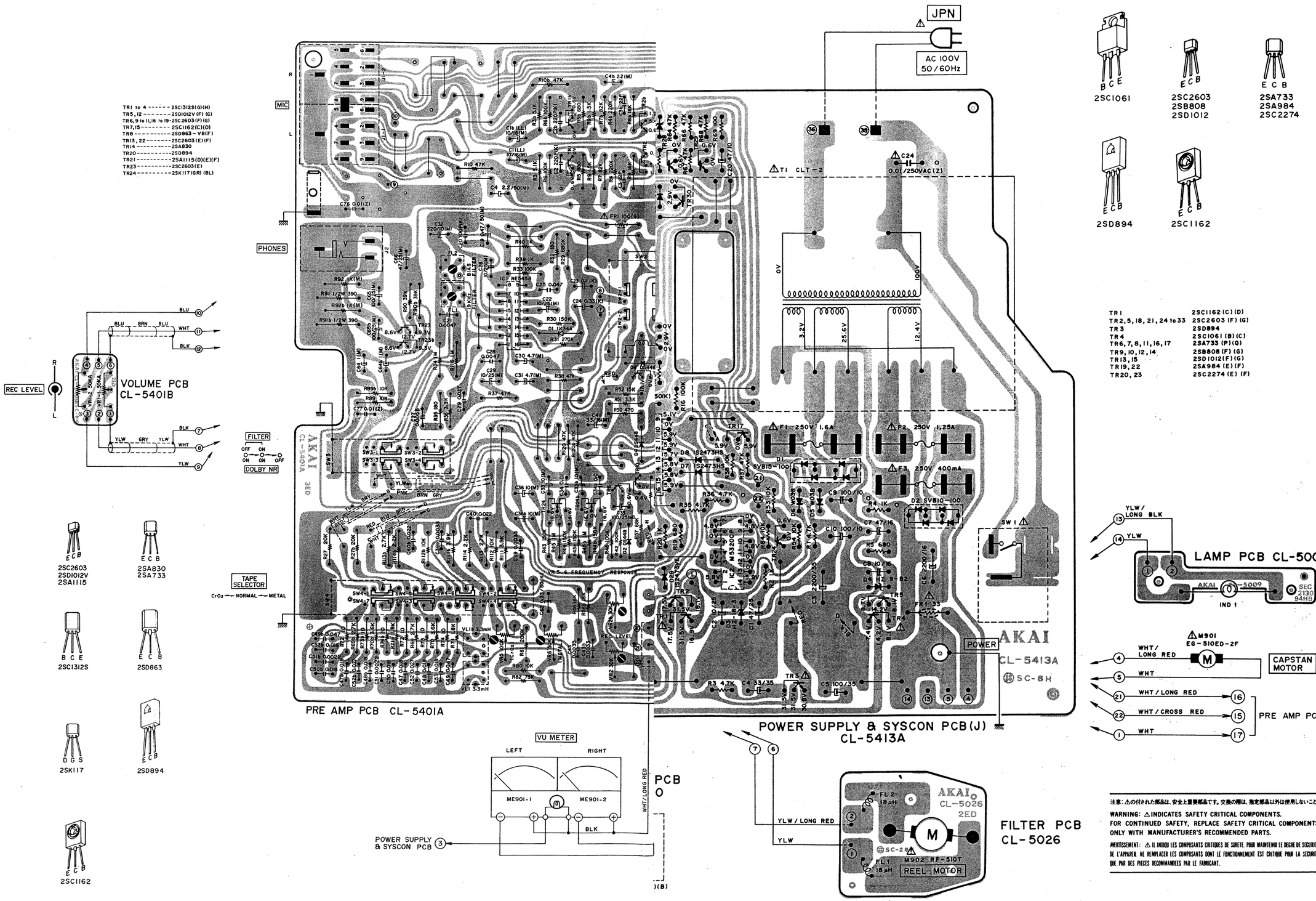
※		NORMAL	CrO2	METAL
TR 14	B	6.2V	8.5V	13.0V
	E	6.4V	8.3V	11.9V
	C	0V	0V	0V
TR 15	E	6.4V	8.3V	12.1V
TR 16	B	7.5V	9.4V	13.2V
	E	7.0V	8.9V	12.7V
TR 17	C	16.4V	16.2V	15.9V
T1	3	0V	0V	0V
	5	34.6V AC	46.4V AC	69.5V AC
	6	42.4V AC	56.8V AC	85.1V AC

WARNING: ⚠INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSEMENT: ⚠IL INDIQU LES COMPOSANTS CRITIQUES DE SÛRETÉ. POUR MAINTENIR LE DEGRÉ DE SECURITE DE L'APPAREIL NE REMPLACER LES CONPOSANTS DONT LE FONCTIONNEMENT EST CRITIQUE POUR LA SECURITE QUE PAR DES PIECES RECOMMANDEES PAR LE FABRICANT

2) Pre Amp P.C Board (JPN) CL-5401A (3ED) Volume P.C Board CL-5401B (2ED)

Lamp P.C Board CL-5009 Filter P.C Board CL-5026 (2ED) Detector P.C Board CL-5010

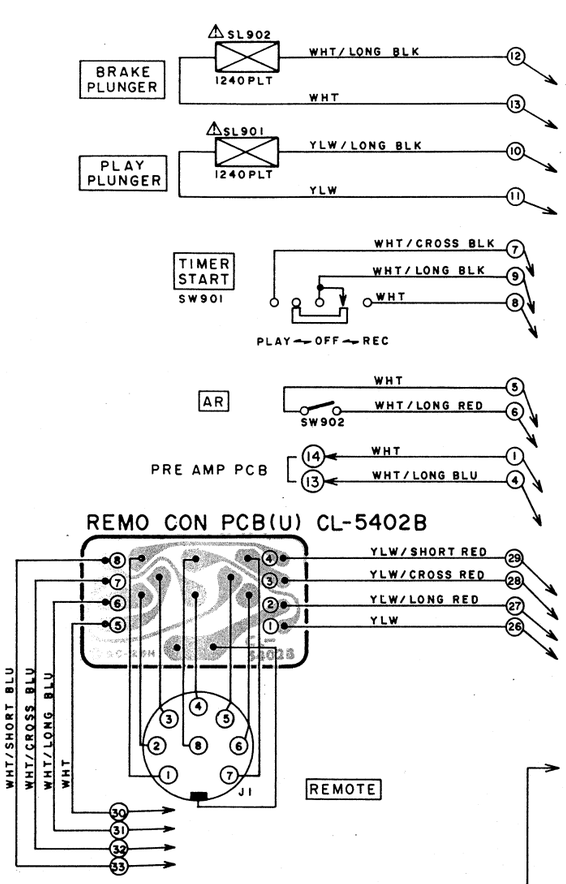


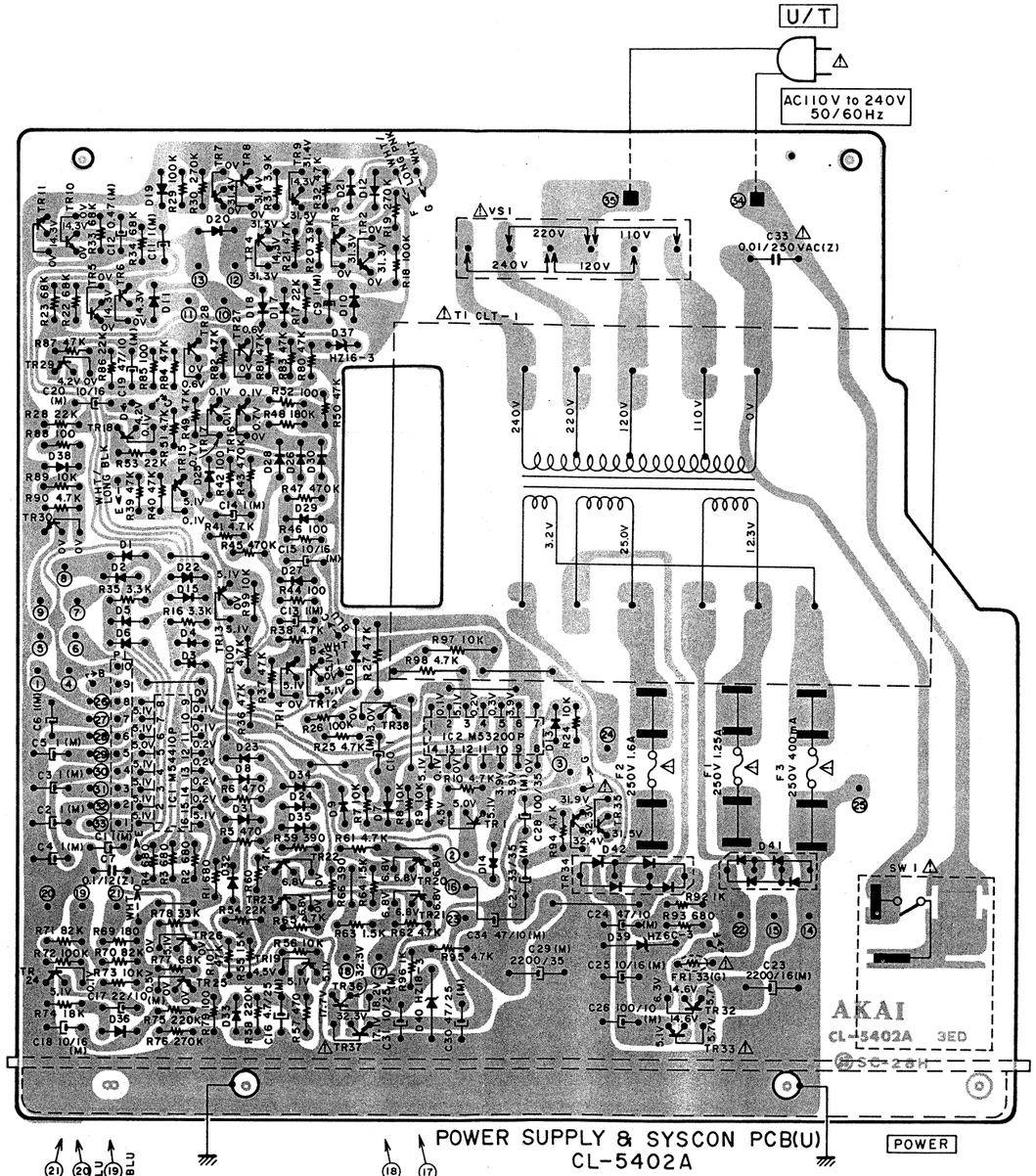
注意：△の付された部品は、安全上重要部品です。交換の際は、指定部品以外は使用しないこと。

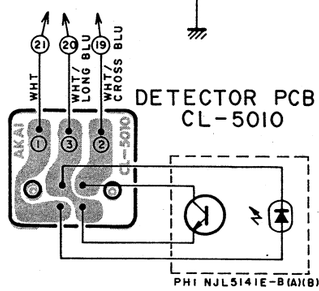
WARNING: △INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.

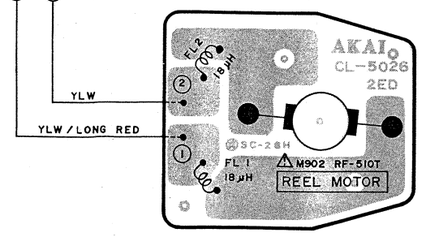
AVERTISSEMENT: △ IL INDIQU LES COMPOSANTS CRITIQUES DE SURETE. POUR MAINTENIR LE DEGRE DE SECURITE DE L'APPAREIL NE REMPLACER LES COMPOSANTS DONT LE FONCTIONNEMENT EST CRITIQUE POUR LA SECURITE QUE PAR DES PIECES RECOMMANDEES PAR LE FABRICANT.

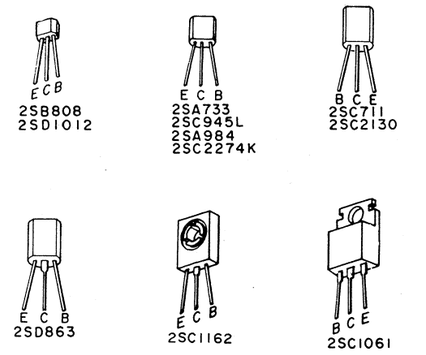
3) Power Supply & Syscon P.C Board (U/T) CL-5402A (3ED) Remo Con P.C Board (U/T) CL-5402B (3ED) Lamp P.C Board CL-5009 Filter P.C Board CL-5026 (2ED) Detector P.C Board CL-5010





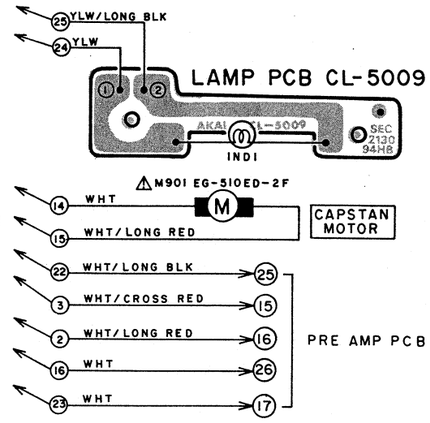






TR1,12,13,19 2SA733A(P)(Q)
TR2,3,32,34 2SC945L(PA)(QA)
TR4,9 2SA984K(E)(F)
TR5,10,36 2SC2130(G)(H)
TR6,11 2SC2274K(E)(F)
TR7,8 2SC945L(PA)(QA)
TR14 to 18,24 to 30 2SC711(G)(H)
TR20,21 2SB808-V(F)(G)
TR22,23 2SD1012-V(F)(G)
TR33 2SC1162(C)(D)
TR35 2SD863-V8(E)(F)
TR37 2SC1061(G)(D)

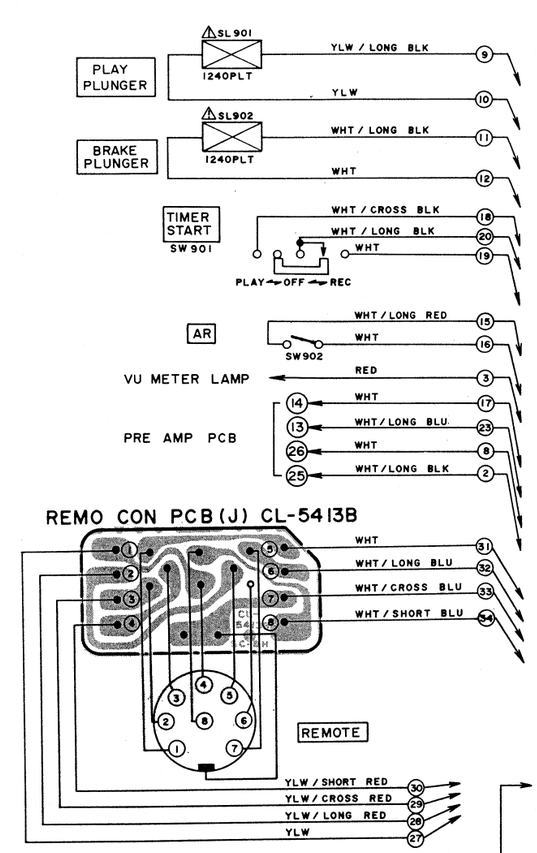
D1 to 10,13 to 19,22 to 36,38 1S2473
D11,12,20 W03B

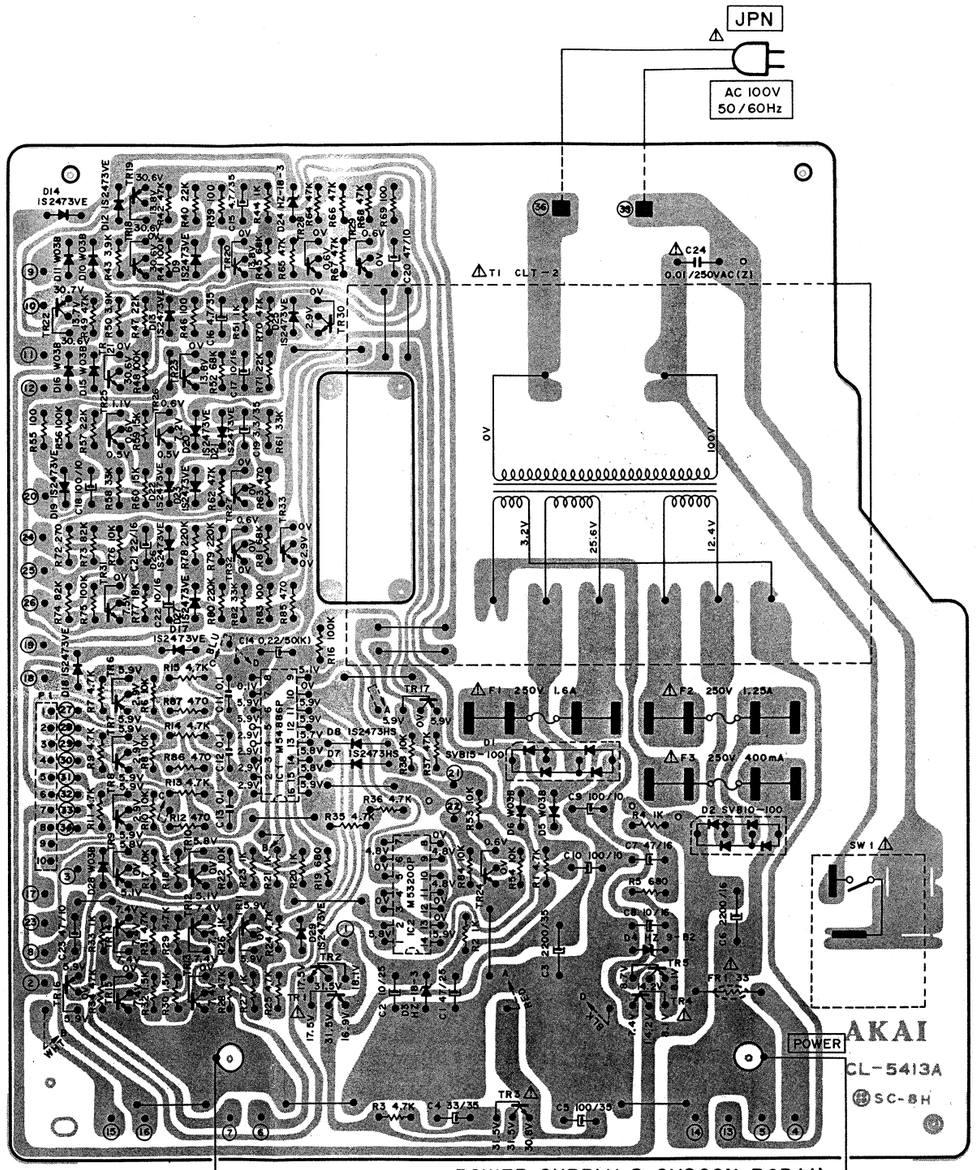


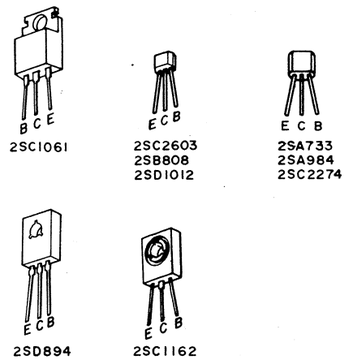
WARNING: ⚠INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSEMENT: ⚠IL INDIQU LES COMPOSANTS CRITIQUES DE SÛRETÉ. POUR MAINTENIR LE DEGRE DE SECURITE DE L'APPAREIL NE REMPLACER LES CONPOSANTS DONT LE FONCTIONNEMENT EST CRITIQUE POUR LA SECURITE QUE PAR DES PIECES RECOMMANDEES PAR LE FABRICANT

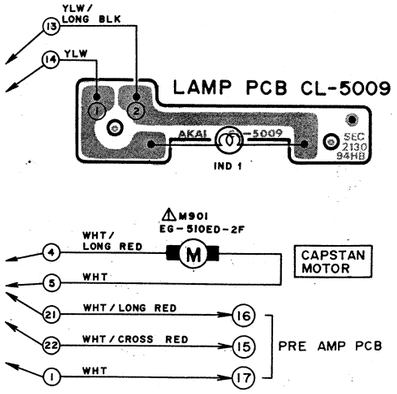
4) Power Supply & Syscon P.C Board (JPN) CL-5413A Remo Con P.C Board (JPN) CL-5413B Lamp P.C Board CL-5009 Filter P.C Board CL-5026 (2ED) Detector P.C Board CL-5010

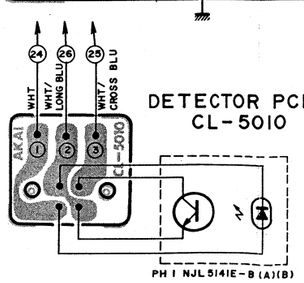


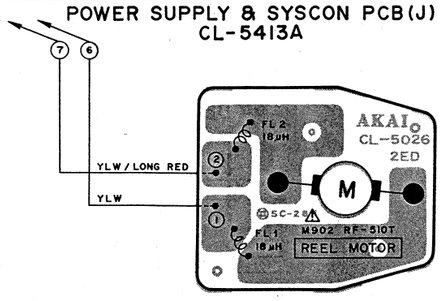




TR1	2SC1162 (C) (D)
TR2, 5, 18, 21, 24 to 33	2SC2603 (F) (G)
TR3	2SD894
TR4	2SC1061 (B) (C)
TR6, 7, 8, 11, 16, 17	2SA733 (P) (Q)
TR9, 10, 12, 14	2SB808 (F) (G)
TR13, 15	2SD1012 (F) (G)
TR19, 22	2SA984 (E) (F)
TR20, 23	2SC2274 (E) (F)





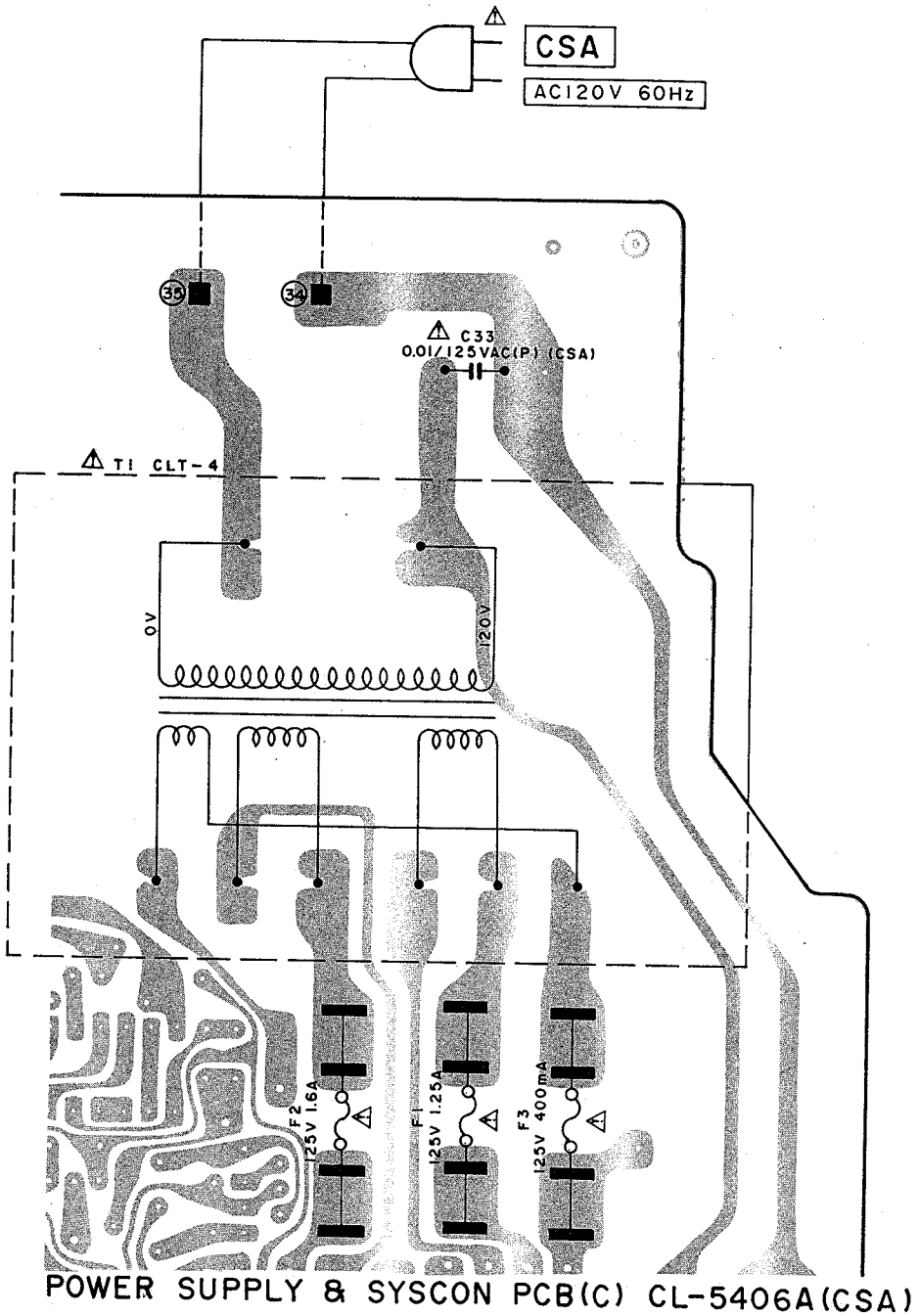


注意: ⚠の付された部品は、安全上重要部品です。交換の際は、指定部品以外は使用しないこと。

WARNING: ⚠INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.

AVERTISSEMENT: ⚠ IL INDIQU LES COMPOSANTS CRITIQUES DE SURETE. POUR MAINTENIR LE DEGRE DE SECURITE DE L'APPAREIL NE REMPLACER LES COMPOSANTS DONT LE FONCTIONNEMENT EST CRITIQUE POUR LA SECURITE QUE PAR DES PIECES RECOMMANDEES PAR LE FABRICANT.

5) Power Supply & Syscon P.C Board (CSA) CL-5406A (3ED)

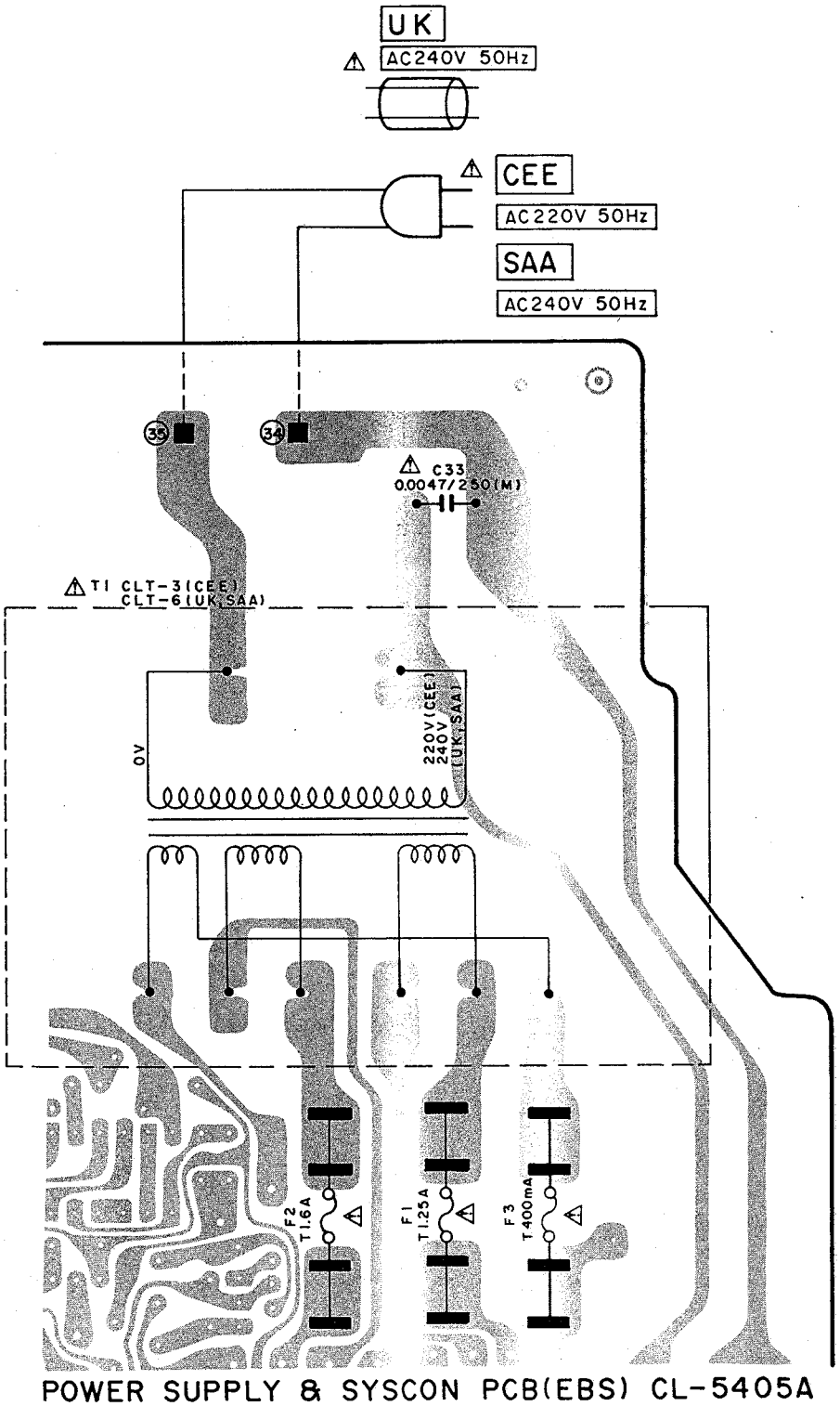


POWER SUPPLY & SYSCON PCB(C) CL-5406A(CSA)

WARNING: ⚠INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSEMENT: ⚠IL INDIQU LES COMPOSANTS CRITIQUES DE SÛRETÉ. POUR MAINTENIR LE DEGRE DE SECURITE DE L'APPAREIL NE REMPLACER LES CONPOSANTS DONT LE FONCTIONNEMENT EST CRITIQUE POUR LA SECURITE QUE PAR DES PIECES RECOMMANDEES PAR LE FABRICANT

6) Power Supply & Syscon P.C Board (CEE, UK, SAA) CL-5405A (3ED)



POWER SUPPLY & SYSCON PCB(EBS) CL-5405A

WARNING: ⚠INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSEMENT: ⚠IL INDIQU LES COMPOSANTS CRITIQUES DE SÛRETÉ. POUR MAINTENIR LE DEGRE DE SECURITE DE L'APPAREIL NE REMPLACER LES CONPOSANTS DONT LE FONCTIONNEMENT EST CRITIQUE POUR LA SECURITE QUE PAR DES PIECES RECOMMANDEES PAR LE FABRICANT

—MEMO—

SECTION 2

PARTS LIST

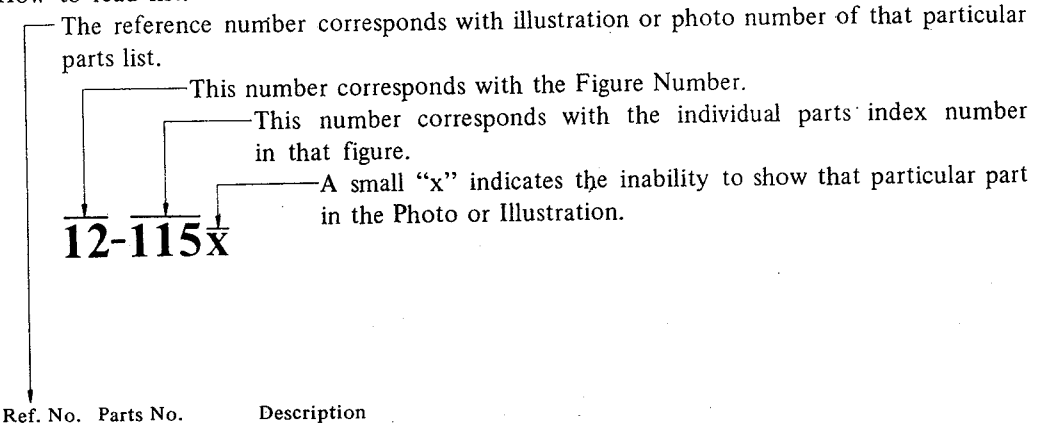
TABLE OF CONTENTS

1. RECOMMENDED SPARE PARTS LIST 28
2. REEL TABLE BLOCK 30
3. MECHA BLOCK 31
4. PRE AMP P.C BOARD (CL-5401A) BLOCK 32
5. POWER SUPPLY & SYS. CON. P.C BOARD (CL-5402A) BLOCK . . . 32
6. POWER SUPPLY & SYS. CON. P.C BOARD (CL-5413A) BLOCK . . . 33
7. ASSEMBLY BLOCK 34
8. FINAL ASSEMBLY BLOCK 36
INDEX 37

Resistor and Capacitor which is not listed in this parts list, please refer to COMMON LIST FOR SERVICE PARTS.

HOW TO USE THIS PARTS LIST

1. This parts list is compiled by various individual blocks based on assembly process.
2. When ordering parts, please describe parts number, serial number, and model number in detail.
3. How to read list.


The reference number corresponds with illustration or photo number of that particular parts list.
This number corresponds with the Figure Number.
This number corresponds with the individual parts index number in that figure.
A small "x" indicates the inability to show that particular part in the Photo or Illustration.
12-115x

Ref. No.	Parts No.	Description
		FLYWHEEL BLOCK #13
12-115x	800425	Flywheel Block Assy. Comp.
12-116	244506	Flywheel Only
12-117x	244754	Felt, Flywheel
12-118	251324	Main Metal Case
12-119	253080	Main Metal

4. The symbol numbers shown on the P.C. Board list can be matched with the Composite Views of components of the Schematic Diagram or Service Manual.
5. The indications of Resistors and Capacitors in the photos of P.C. Board are being eliminated.
6. The shape of the parts and parts name, etc. can be confirmed by comparing them with the parts shown on the Electrical Parts Table of P.C. Board.
7. Both the kind of part and installation position can be determined by the Parts Number. To determine where a parts number is listed, utilize Parts Index at end of Parts List.
   It is necessary first of all to find the Parts Number. This can be accomplished by using the Reference Number listed at right of parts number in the Parts Index. (meaning of ref. no. outlined in Item 3 above).
8. Utilize separate "Price List for Parts" to determine unit price. The most simple method of finding parts Price is to utilize the reference number.

CAUTION:

1. When placing an order for parts, be sure to list the parts no. model no., and description. There are instances in which if any of this information is omitted, parts cannot be shipped or the wrong parts will be delivered.
2. Please be careful not to make a mistake in the parts no. If the parts no. is in error, a part different from the one ordered may be delivered.
3. Because parts number and parts unit supply in the Preliminary Service Manual (Basic Parts List) may be partially changed, please use this parts list for all future reference.

WARNING: ⚠ INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMEMNDED PARTS.

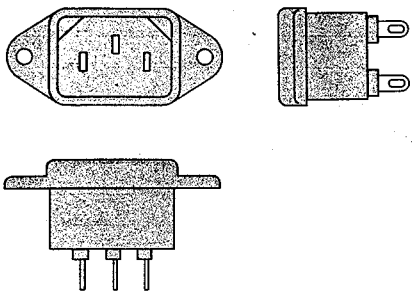
AVERTISSEMENT: ⚠ IL INDIQU LES COMPOSANTS CRITIQUES DE SURETE. POUR MAINTENIR LE DEGRE DE SECURITE DE L'APPAREIL NE REMPLACER LES COMPOSANTS DONT LE FONCTIONNEMENT EST CRITIQUE POUR LA SECURITE QUE PAR DES PIECES RECOMMANDEES PAR LE FABRICANT.

AC INLET SYSTEM

This model is equipped with an AC INLET SYSTEM. Please refer to the AC INLET SYSTEM CHART below for the specific type. By the AC INLET SYSTEM, AC (mains) cord can be connected to and disconnected from the model because the model is provided with socket exclusively for AC (mains) cord on its main body.
Please note, however, that certain models are not equipped with this system and has a built-in AC (mains) cord as before.

AC INLET SYSTEM CHART

CLASS I

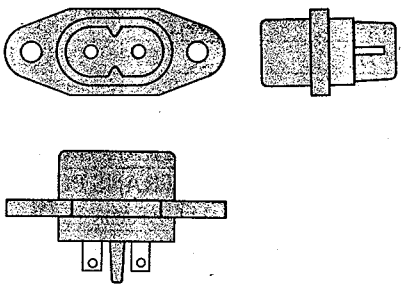


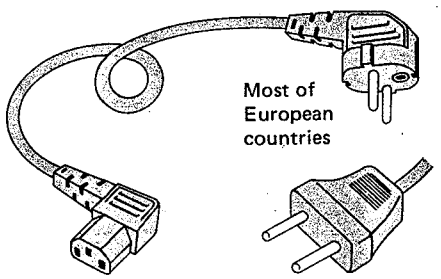
Picture 1

AC INLET to be installed on machines

CLASS II

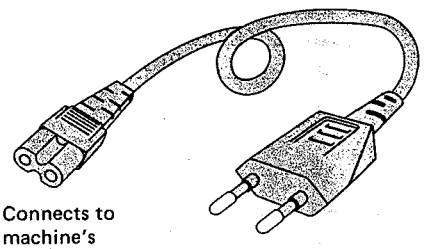
▣ This mark indicating double insulation will be attached to machine's rear panel

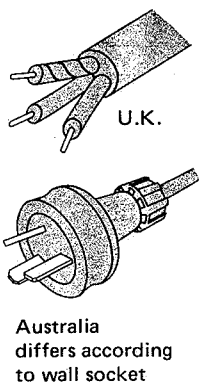


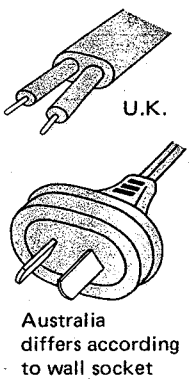


Picture 2

AC (mains) cord







Parts List for AC (mains) Cord Set

Standard		Description	Type of AC Inlet	Parts No.
Class I	CEE	Cord Set CEE (3 cores)	3P	EW302993
	UK	Cord Set UK (3 cores)	3P	EW302994
	SAA	Cord Set SAA (3 cores)	3P	EW302996
	U/T	Cord Set U/T (3 cores)	3P	EW302646
Class II	CEE	Cord Set CEE (2 cores)	2P	EW638144
	UK	Cord Set UK (2 cores)	2P	EW302995
	SAA	Cord Set SAA (2 cores)	2P	EW302991
	U/T	Cord Set U/T (2 cores)	2P	EW302899

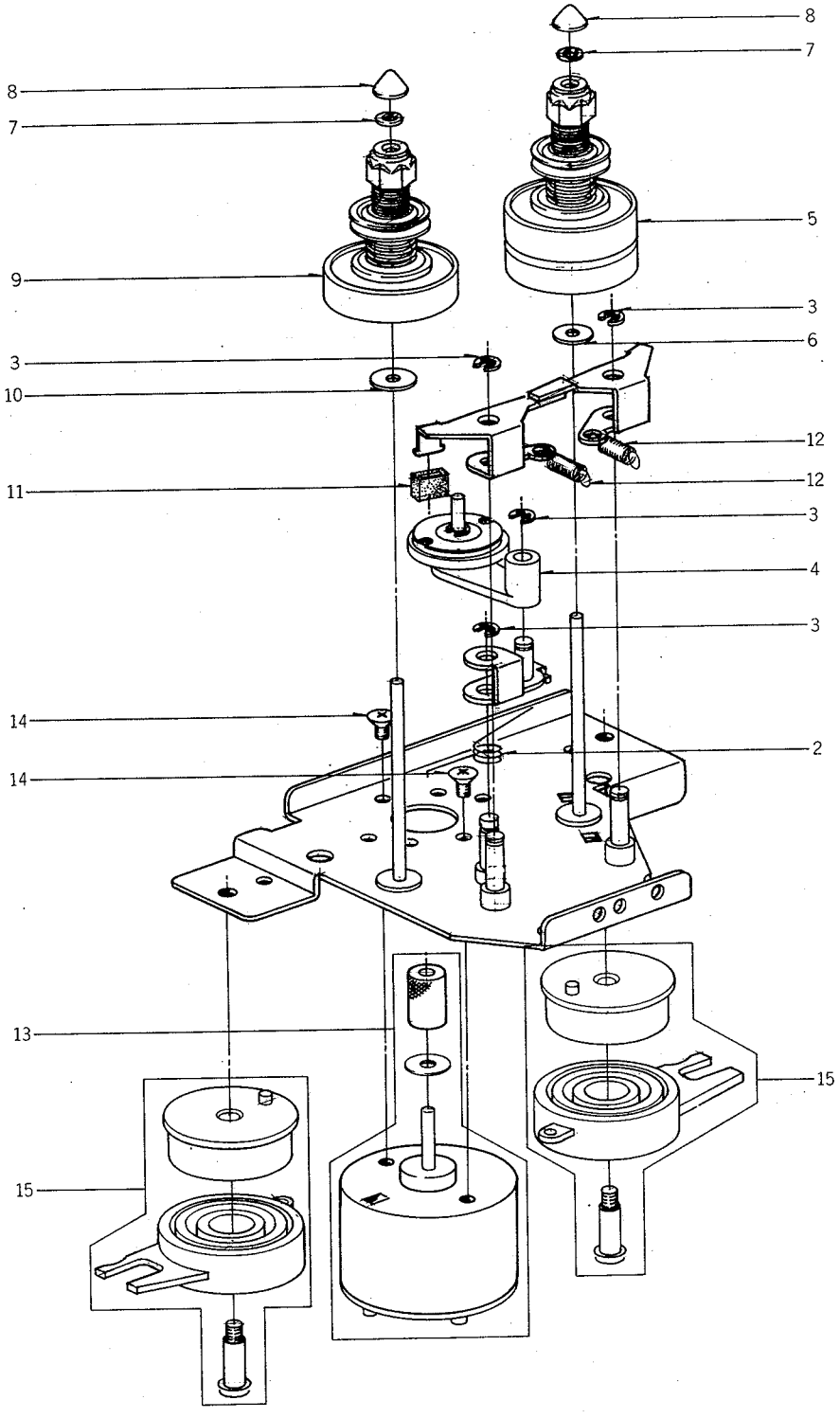
1. RECOMMENDED SPARE PARTS LIST

Because, if the parts listed below are on hand, almost any repair can be accomplished, we suggest that you stock these Recommended Spare Parts Items.

Parts No.	Description	Notes
BF330095	FLYWHEEL (C)	
BHT2035A060A	HEAD BLK CS-F9	
BL328427	TAKE-UP IDLER ASSY	
BL328426	WIND IDLER ASSY	
BMT2015A130A	⚠ MAIN MOTOR BLK (W/PULLEY) GX-F25	
BMT2016A320A	⚠ REEL MOTOR BLK (W/PULLEY) GX-F35	
BRB328517	REEL TABLE PART	
BR328425	SUPPLY REEL TABLE ASSY	
BR328424	TAKE-UP REEL TABLE ASSY	
BT328401	⚠ TRANS POWER CLT-1	U/T
BT328402	⚠ TRANS POWER CLT-2	JPN
BT328403	⚠ TRANS POWER CLT-3	CEE
BT328404	⚠ TRANS POWER CLT-4	CSA
BT328405	⚠ TRANS POWER CLT-6	UK, SAA
ED308953	D GERMA H 1K34A-LH SNP	
ED322982	D GERMA V 1S188FM-1-LR F07	
ED330319	D SILICON DBA10B 100/1.0A	
ED200469	D SILICON H DS448 FA1 F10	
ED316143	D SILICON H 1S2473HS F10	
ED330987	D SILICON RB152 200/1.5A	
ED308945	D SILICON SVB10-100 100/1.0A	
ED200468	D SILICON V DS448 VB3	
ED560913	D SILICON V 1S2473VE	
ED306109	D SILICON W03B 100/1.0A	
ED328486	D ZENER H HZ15 3	
ED329449	D ZENER H HZ18 3	
ED319167	D ZENER H HZ6 C3	
ED328700	D ZENER H HZ9 A2	
ED321180	D ZENER H HZ9 B2	
EF668474	⚠ FUSE SEMKO T 250V 0.40A	F3, CEE, UK, SAA
EF602550	⚠ FUSE SEMKO T 250V 1.25A	F1, CEE, UK, SAA
EF601964	⚠ FUSE SEMKO T 250V 1.60A	F2, CEE, UK, SAA
EF309389	⚠ FUSE TSC A 250V 0.40A	F3, U/T, JPN
EF306949	⚠ FUSE TSC A 250V 1.25A	F1, U/T, JPN
EF311839	⚠ FUSE TSC A 250V 1.6A	F2, U/T, JPN
EF308848	⚠ FUSE TSC 125V 0.40A	F3, CSA
EF309392	⚠ FUSE TSC 125V 1.25A	F1, CSA
EF308847	⚠ FUSE TSC 125V 1.60A	F2, CSA
EI430661	IC M53200P	
EI308936	IC M54410P	
EI330113	IC M54886P	
EI605013	IC NE545B	
EI329411	PHOTO SENSOR NJL5141E-B A,B	
EJ324276	DIN J TCS4680-01-111 P 8P	
EL200096	PL LEAD 3.5V 100MA	
EM329497	IND LE LT-1003 GRAPH	U/T, CSA, CEE, UK, SAA
EM328722	METER VU VU-33-302 0.250MA	JPN
EP328529	RELAY LEAD LAB2NS 2NO 12V	
EP328419	⚠ SOLENOID 1240PLT 27V	
EP328420	⚠ SOLENOID 1240PLT 27V	
ER328490	FILTER DB D07-001K 19KHZ	
ER328491	FILTER DB D07-003K 100KHZ	
ER328520	⚠ R FUSE ERD2FC 1/4W 1000G	

Parts No.	Description	Notes
ER201584	⚠ R FUSE ERD2FC 1/4W 33ROG	
ER325381	⚠ R FUSE FR25SJ 1/4W 2R2J	
ES328430	SW LEAF B SW-101B 01-1 NO	
ES201314	SW LEVER 00430408 2-04-03S	
ES315748	SW LEVER 83157 2-08-03S	
ES201235	SW OPERATION CS-F11 7P L	
ES201236	SW OPERATION CS-F11-BL 7P L	
ES315159	SW PUSH SDG1P 01-1 J	
ES310839	SW PUSH SDG1P-E 01-1 E	
ES655806	SW PUSH SDG1P-J 01-1 C	
ES328416	SW SLIDE SSB02385 2-02-03S	
ES328530	SW SOLENOID SWE018404 18V 04-2N	
ET303697	TR FET 2SK117 GR	
ET200479	TR 2SA1115 D,E, F	
ET539122	TR 2SA733P,Q,R	
ET554657	TR 2SA733A P, Q	
ET201801	TR 2SA830	
ET324134	TR 2SA984K E, F	
ET328438	TR 2SB808-V F, G	
ET375603	TR 2SC1061 B, C	
ET301154	TR 2SC1162 C, D	
ET603257	TR 2SC1312S G, H	
ET308937	TR 2SC2130 G, H	
ET309353	TR 2SC2274 E, F	
ET200596	TR 2SC2603 E	
ET200505	TR 2SC2603 E, F	
ET200985	TR 2SC2603 F, G	
ET308141	TR 2SC2603 G	
ET639437	TR 2SC945L Q, P	
ET328437	TR 2SD1012-V F, G	
ET319638	TR 2SD1012-V F, G, H	
ET307349	TR 2SD794 P, Q	
ET328440	TR 2SD863-V8 E, F	
ET200986	TR 2SD863-V8 F	
ET201580	TR 2SD894	
ET321016	TR 2SK117 GR, BL	
EV315755	R S-FIX H D10 3P 503	
EV321637	R S-FIX H D8 3P 104	
EV315414	R S-FIX H D8 3P 203	
EV322416	R S-FIX H D8 3P 303	
EV315413	R S-FIX H D8 3P 503	
EV330318	R S-FIX H VG083KL1 3P 0.25W 503	
EV329416	VR ROTARY 16P11XOR 15A503 15A503	
EV202110	VR ROTARY 16P11X0S A503 A503	
HE321585	HEAD E HF213151 C	
HP201806	HEAD R/P RP-2442-DM-6210 C	
MB330097	BELT FLYWHEEL	
MB328324	COUNTER BELT	
MC328723	COUNTER MP390-442	
MC328725	COUNTER (BL) MP390-443	
MLB328513	PINCH ROLLER ARM PART GX-F35	
MPB319580	PINCH ROLLER PART GX-F90	
MZ283140	⚠ SOCKET SELECTER X-17238 6P	U/T

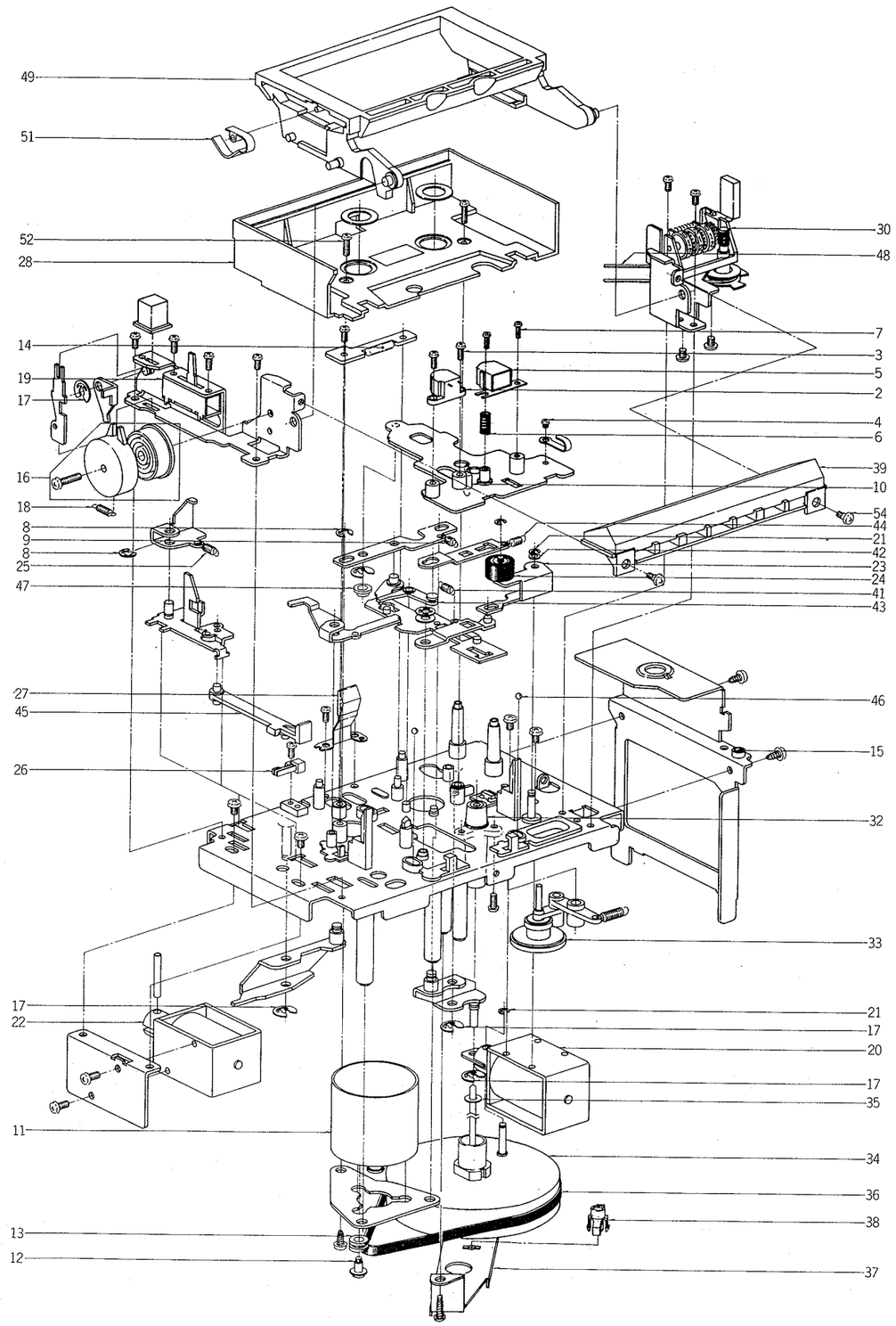
2. REEL TABLE BLOCK



REEL TABLE BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
2-1x	BRB328517	REEL TABLE PART
2-2	ZG328361	IDLER SPRING
2-3	ZW270088	RING E 190SUP CMT
2-4	BL328426	WIND IDLER ASSY
2-5	BR328424	TAKE-UP REEL TABLE ASSY
2-6	ZW536466	PW21x070x050NYL
2-7	ZW305546	PW21x040x025PSL
2-8	MT305793	REEL CAP
2-9	BR328425	SUPPLY REEL TABLE ASSY
2-10	ZW201610	PW19.8x080x025PSL
2-11	MB282104	BRAKE RUBBER
2-12	ZG312945	SP T1-3.2/0.29-14.0 T1-061
2-13	BM-T2016A320A⚠	REEL MOTOR BLK (W/PULLEY) GX-F35
2-14	ZS430413	CTS26x04STL CMT
2-15	BZ-T2016A330A	DAMPER (B) ASSY GX-F35

3. MECHA BLOCK



MECHA BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
3-1x	BHT2035A060A	HEAD BLK CS-F9
3-2	HE321585	HEAD E HF213151 C
3-3	ZS590804	PAN23x06STL CMT
3-4	ZS303936	PAN20x02STL CMT
3-5	HP201806	HEAD R/P RP-2442-DM-6210C
3-6	ZG328305	ANGLE SPRING
3-7	ZS608106	PAN20x06STL CMT
3-8	ZW270101	RING E300SUP CMT
3-9	ZG312946	SP T1-3.2/0.29-16.0 T1-062
3-10	ZG312997	SP T1-4.0/0.4-16.0 T1-111
3-11	BM-T2015A130A	⚠ MAIN MOTOR BLK (W/PULLEY) GX-F25
3-12	ZS321338	MOTOR SCREW
3-13	MB282778	RUBBER BUSH
3-14	EL200096	PL LEAD 3.5V 100MA
3-15	EI329411	PHOTO SENSOR NJL5141 E-B A,B
3-16	BZ-T2016A290A	DAMPER (A) ASSY GX-F35
3-17	ZW290283	RING U 285SUP CMT
3-18	ZG329433	EJECT SPRING
3-19	ES328416	SW SLIDE SSB02385 2-02-03S
3-20	EP328420	⚠ SOLENOID 1240PLT 27V
3-21	ZW270088	RING E 190SUP CMT
3-22	EP328419	⚠ SOLENOID 1240PLT 27V
3-23	MLB328513	PINCH ROLLER ARM PART GX-F35
3-24	MPB319580	PINCH ROLLER PART GX-F90
3-25	ZG312943	SP T1-3.2/0.29-11.2 T1-059
3-26	ES328430	SW LEAF BSW-101B 01-1 NO
3-27	TCT2016A410A	CASSETTE HOLD PLATE ASSY GX-F35
3-28	BZT2016A430A	LID HOUSING ASSY GX-F35
3-29x	BZT2016A430B	LID HOUSING ASSY GX-F35-BL
3-30	MC328723	COUNTER MP390-442
3-31x	MC328725	COUNTER (BL) MP390-443
3-32	MV328322	MAIN CASE
3-33	BL328427	TAKE-UP IDLER ASSY
3-34	BF330095	FLYWHEEL (C)
3-35	ZW309295	THRUST WASHER
3-36	MB330097	BELT FLYWHEEL
3-37	TC330098	HOLDER FLYWHEEL
3-38	TC330099	THRUST HOLDER
3-39	ES201235	SW OPERATION CS-F11 7P L
3-40x	ES201236	SW OPERATION CS-F11-BL 7P L
3-41	ZG328352	PINCH ROLLER SPRING
3-42	ZW329448	PW26x045x013PSL
3-43	ML328337	COUPLING LEVER
3-44	ZG324329	SP T2-3.2/0.29-11.2 T2-059
3-45	TC328344	EJECT JOINT
3-46	MV368886	BALL 300 STL
3-47	TC328348	GUIDE COLLAR
3-48	MB328324	COUNTER BELT
3-49	TC328350	CASSETTE HOLDER
3-50x	TC328351	CASSETTE HOLDER (BL)
3-51	ZG321487	MOLD SPRING
3-52	ZS329445	PLX PAN26x08STL NI3
3-53x	ZS329443	PLX PAN26x08STL BNI
3-54	ZS328347	OP FIXATION SCREW

4. PRE AMP P.C BOARD (CL-5401A) BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
4-1	BAT2035A070A	PRE AMP PC BLK CS-F9
4-2	BAT2013A070C	PRE AMP PC BLK CS-F9-J
4-IC1	EI605013	IC NE545B
4-TR1 to4	ET603257	TR 2SC1312S G, H
4-TR5	ET328437	TR 2SD1012-V F, G
4-TR6	ET200985	TR 2SC2603 F, G
4-TR7	ET307349	⚠ TR 2SD794 P, Q (U/T,CSA,CEE,UK,SAA)
4-TR7	ET301154	TR 2SC1162 C, D (JPN)
4-TR8	ET200986	TR 2SD863-V8 F
4-TR9to11	ET200985	TR 2SC2603 F, G
4-TR12	ET328437	TR 2SD1012-V F, G
4-TR13	ET200505	TR 2SC2603 E, F
4-TR14	ET201801	⚠ TR 2SA830
4-TR15	ET307349	⚠ TR 2SD794 P, Q (U/T,CSA,CEE,UK,SAA)
4-TR15	ET301154	TR 2SC1162 C, D (JPN)
4-TR16to19	ET200985	TR 2SC2603 F, G
4-TR20	ET201580	⚠ TR 2SD894
4-TR21	ET539122	TR 2SA733 (P) (Q) (R) (U/T,CSA,CEE,UK,SAA)
4-TR21	ET200479	TR 2SA1115 D, E, F (JPN)
4-TR22	ET200505	TR 2SC2603 E, F
4-TR23	ET200596	TR 2SC2603 E (JPN)
4-TR24	ET303697	TR FET 2SK117 GR (U/T,CSA,CEE,UK,SAA)
4-TR24	ET321016	TR 2SK117 GR, BL (JPN)
4-D1	ED308953	D GERMA H 1K34A-LH SNP
4-D2	ED200469	D SILICON H DS448 FA1 F10
4-D3	ED328486	D ZENER H HZ15 3
4-D4 to08	ED200469	D SILICON H DS448 FA1 F10
4-D9 to12	ED200468	D SILICON V DS448 VB3
4-D14	ED328700	D ZENER H HZ9 A2
4-D15	ED200468	D SILICON V DS448 VB3
4-D16, 17	ED322982	D GERMA V 1S188FM-1-LR F07
4-D18	ED200469	D SILICON H DS448 FA1 F10
4-D19	ED200468	D SILICON V DS448 VB3 (U/T,CSA,CEE,UK,SAA)
4-D19	ED200469	D SILICON H DS448 FA1 F10 (JPN)
4-FR1	ER328520	⚠ R FUSE ERD2FC 1/4W 1000G
4-FR2	ER325381	⚠ R FUSE FR25SJ 1/4W 2R2J
4-J1	EJ307800	PHONE J HLJ0345-060 2x3P (U/T,CSA,CEE,UK,SAA)
4-J1	EJ321328	PHONE J HLJ0345-010 2x3P (JPN)
4-J2	EJ316156	PHONE J 3P HLJ0315-020 6.3 (JPN)
4-J3	EJ308986	PIN J 1784P1782 P 4P
4-SW2	ES328530	SW SOLENOID SWE018404 18V 04-2N
4-SW3	ES201314	SW LEVER 00430408 2-04-03S
4-SW4	ES315748	SW LEVER 83157 2-08-03S
4-SW5	EP328529	RELAY LEAD LAB2NS 2N0 12V
4-VR1	EV315413	R S-FIX H D8 3P 503
4-VR2	EV322416	R S-FIX H D8 3P 303
4-VR3	EV330318	R S-FIX H VG083KL1 3P 0.25W 503 (U/T,CSA,CEE,UK,SAA)
4-VR3	EV315755	R S-FIX H D10 3P 503 (JPN)
4-VR5	EV321637	R S-FIX H D8 104
4-VR6	EV315413	R S-FIX H D8 3P 503
4-VR7	EV315414	R S-FIX H D8 3P 203 (U/T,CSA,CEE,UK,SAA)
4-VL1	EO310608	COIL VARI 1 FE001 3.3MH
4-T1	EO328485	COIL OSC 1 2325-067 100KHZ
4-FL1	ER328490	FILTER DB D07-001K 19KHZ
4-FL2	ER328491	FILTER DB D07-003K 100KHZ
4-FL3	EO315758	COIL TUN 1 100S-431 100KHZ
4-FL4	EO315758	COIL TUN 1 100S-431 100KHZ (JPN)
4-C13	EC307258	C STY V F05 500 331K 50DC
4-C20	EC200983	C STY V F05 500 101K 50DC
4-C55	EC201021	C STY V F05 CQF09 151J 250DC
4-C56	EC325380	C PP V F10 PFH 332J 630DC
4-C81	EC316150	C STY V F05 500 821J 50DC (U/T,CSA,CEE,UK,SAA)
4-C82	EC311867	C STY V F05 500 391J 50DC

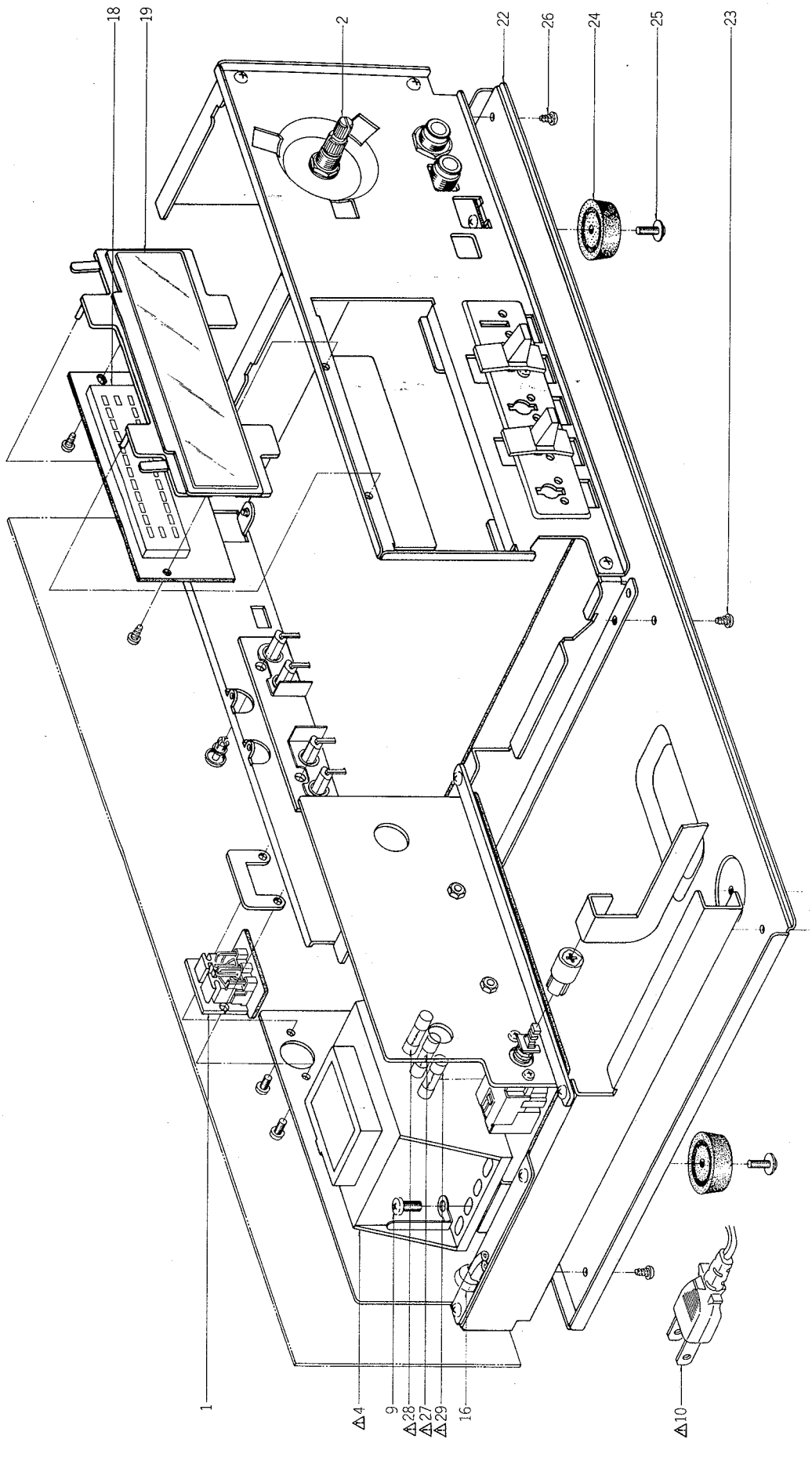
5. POWER SUPPLY & SYS. CON. P.C BOARD (CL-5402A) BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
5-IC1	EI308936	IC M54410P
5-IC2	EI430661	IC M53200P
5-TR1	ET554657	TR 2SA733A P, Q
5-TR2,3	ET639437	TR 2SC945L Q, P
5-TR4	ET324134	TR 2SA984K E, F
5-TR5	ET308937	TR 2SC2130 G, H
5-TR6	ET309353	TR 2SC2274 E, F
5-TR7,8	ET639437	TR 2SC945L Q, P
5-TR9	ET324134	TR 2SA984K E, F
5-TR10	ET308937	TR 2SC2130 G, H
5-TR11	ET309353	TR 2SC2274 E, F
5-TR12,13	ET554657	TR 2SA733A P, Q
5-TR14 to18	ET308141	TR 2SC2603 G
5-TR19	ET554657	TR 2SA733A P, Q
5-TR20,21	ET328438	TR 2SB808-V, F, G
5-TR22,23	ET319638	TR 2SD1012-V F, G, H
5-TR24 to30	ET308141	TR 2SC2603 G
5-TR32	ET639437	TR 2SC945L Q, P
5-TR33	ET301154	⚠ TR 2SC1162 C, D
5-TR34	ET639437	TR 2SC945L Q, P
5-TR35	ET328440	TR 2SD863-V8 E, F
5-TR36	ET308937	TR 2SC2130 G, H
5-TR37	ET375603	⚠ TR 2SC1061 B, C
5-TR38	ET308141	TR 2SC2603 G
5-D1 to10	ED560913	D SILICON V 1S2473VE
5-D11,12	ED306109	D SILICON W03B 100/1.0A
5-D13 to15	ED560913	D SILICON V 1S2473VE
5-D16	ED316143	D SILICON H 1S2473HS F10
5-D17 to19	ED560913	D SILICON V 1S2473VE
5-D20,21	ED306109	D SILICON W03B 100/1.0A
5-D22 to36	ED560913	D SILICON V 1S2473VE
5-D37	ED313846	D ZENER H HZ16 3
5-D38	ED560913	D SILICON V 1S2473VE
5-D39	ED319167	D ZENER H HZ6 C3
5-D40	ED329449	D ZENER H HZ18 3
5-D41	ED308945	⚠ D SILICON SVB10-100 100/1.0A
5-D42	ED330987	⚠ D SILICON RB152 200/1.5A
5-FR1	ER201584	⚠ R FUSE ERD2FC 1/4W 33R0G
5-VS1	MZ283140	⚠ SOCKET SELECTER X-I7238 6P
5-SW1	ES310839	⚠ SW PUSH SDG1P-E 01-1 E (U/T,CEE,UK,SAA)
5-SW1	ES655806	⚠ SW PUSH SDG1P-J 01-1 C (CSA)
5-C29	EC307560	C EC V CUT SE 222M 35DC
5-C33	EC320548	⚠ C CE V F 103Z 250AC (U/T)
5-C33	EC314688	⚠ C CE V FZ 103P 125AC (CSA)
5-C33	EC327382	⚠ C MP V 472M 250AC (CEE,UK,SAA)

6. POWER SUPPLY & SYS. CON. P.C BOARD (CL-5413A) BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
6-1	BAT2035A150A	POWER & SYSCON PC BLK CS-F9-J
6-IC1	EI330113	IC M54886P
6-IC2	EI430661	IC M53200P
6-TR1	ET301154	TR 2SC1162 C, D
6-TR2	ET200985	TR 2SC2603 F, G
6-TR3	ET201580	TR 2SD894
6-TR4	ET375603	TR 2SC1061 B, C
6-TR5	ET200985	TR 2SC2603 F, G
6-TR6to8	ET554657	TR 2SA733A P, Q
6-TR9, 10	ET328438	TR 2SB808-V F, G
6-TR11	ET554657	TR 2SA733A P, Q
6-TR12	ET328438	TR 2SB808-V F, G
6-TR13	ET328437	TR 2SD1012-V F, G
6-TR14	ET328438	TR 2SB808-V F, G
6-TR15	ET328437	TR 2SD1012-V F, G
6-TR16,17	ET554657	TR 2SA733A P, Q
6-TR18	ET200985	TR 2SC2603 F, G
6-TR19	ET324134	TR 2SA984K E, F
6-TR20	ET309353	TR 2SC2274 E, F
6-TR21	ET200985	TR 2SC2603 F, G
6-TR22	ET324134	TR 2SA984K E, F
6-TR23	ET309353	TR 2SC2274 E, F
6-TR24to33	ET200985	TR 2SC2603 F, G
6-D1	ED330987	D SILICON RB152 200/1.5A
6-D2	ED330319	D SILICON DBA10B 100/1.0A
6-D3	ED329449	D ZENER H HZ18 3
6-D4	ED321180	D ZENER H HZ9 B2
6-D5,6	ED306109	D SILICON W03B 100/1.0A
6-D7,8	ED316143	D SILICON H 1S2473HS F10
6-D9	ED560913	D SILICON V 1S2473VE
6-D10,11	ED306109	D SILICON W03B 100/1.0A
6-D12to14	ED560913	D SILICON V 1S2473VE
6-D15,16	ED306109	D SILICON W03B 100/1.0A
6-D17to23	ED560913	D SILICON V 1S2473VE
6-D24	ED329449	D ZENER H HZ18 3
6-D25to27	ED560913	D SILICON V 1S2473VE
6-D28	ED306109	D SILICON W03B 100/1.0A
6-D29	ED560913	D SILICON V1S2473VE
6-FR1	ER201584	⚠ R FUSE ERD2FC 1/4W 33R0G
6-SW1	ES315159	SW PUSH SDG1P 01-1 J
6-C24	EC320548	C CE V F 103Z 250AC

7. ASSEMBLY BLOCK



ASSEMBLY BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
7-1	EJ324276	DIN J TCS4680-01-111 P 8P
7-2	EV202110	VR ROTARY 16P11x0S A503 A503 (U/T,CSA,CEE,UK,SAA)
7-3x	EV329416	VR ROTARY 16P11x0R 15A503 15A503 (JPN)
7-4	BT328401	⚠ TRANS POWER CLT-1 (U/T)
7-5x	BT328402	⚠ TRANS POWER CLT-2 (JPN)
7-6x	BT328404	⚠ TRANS POWER CLT-4 (CSA)
7-7x	BT328403	⚠ TRANS POWER CLT-3 (CEE)
7-8x	BT328405	⚠ TRANS POWER CLT-6 (UK,SAA)
7-9	ZS314702	ST BID40x10STL CMT
7-10	EW306428	⚠ AC CORD 2 CORES KP-205A,VFF UCJ (U/T)
7-11x	EW306427	⚠ AC CORD 2 CORES KP-211, VFF J (JPN)
7-12x	EW305691	⚠ AC CORD 2 CORES KP-8, SPT-1 UC (CSA)
7-13x	EW313882	⚠ AC CORD 2 CORES KP-419C, LTCE-2F E (CEE)
7-14x	EW313884	⚠ AC CORD 2 CORES GTBS-2F 24/0.20x2 B (UK)
7-15x	EW201515	⚠ AC CORD 2 CORES KP-560, LTSA-2F S (SAA)
7-16	SZ631945	STRAIN RELIEF SR-4N-4 (U/T,JPN,CSA,CEE,SAA)
7-17x	EJ692908	STRAIN RELIEF SR-5N-4 (UK)
7-18	EM329497	IND LE LT-1003 GRAPH (U/T,CSA,CEE,UK,SAA)
7-19	SZ329519	METER WINDOW (U/T,CSA,CEE,UK,SAA)
7-20x	EM328722	METER VU VU-33-302 0.250MA (JPN)
7-21x	SE325784	VOL. ESCUTCHEON (JPN)
7-22	SP328379	BOTTOM PLATE
7-23	ZS306021	ST PAN30x06STL CMT
7-24	SA202118	FOOT
7-25	ZS313486	ST PAN30x06STL CMT C
7-26	ZS325495	T2BR30x06STL CMT
7-27	EF306949	⚠ FUSE TSC A 250V 1.25A (F1) (U/T,JPN)
7-28	EF311839	⚠ FUSE TSC A 250V 1.6A (F2) (U/T,JPN)
7-29	EF309389	⚠ FUSE TSC A 250V 0.40A (F3) (U/T,JPN)
7-30x	EF309392	⚠ FUSE TSC 125V 1.25A (F1) (CSA)
7-31x	EF308847	⚠ FUSE TSC 125V 1.60A (F2) (CSA)
7-32x	EF308848	⚠ FUSE TSC 125V 0.40A (F3) (CSA)
7-33x	EF602550	⚠ FUSE SEMKO T 250V 1.25A (F1) (CEE,UK,SAA)
7-34x	EF601964	⚠ FUSE SEMKO T 250V 1.60A (F2) (CEE,UK,SAA)
7-35x	EF668474	⚠ FUSE SEMKO T 250V 0.40A (F3) (CEE,UK,SAA)

8. FINAL ASSEMBLY BLOCK

FINAL ASSEMBLY BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
8-1	BDT2035A110A	LID PANEL BLK CS-F9
8-2x	BDT2035A110B	LID PANEL BLK CS-F9-BL
8-3	BDT2035A100A	FRONT PANEL BLK CS-F9
8-4x	BDT2035A100B	FRONT PANEL BLK CS-F9-BL
8-5x	BDT2013A130E	FRONT PANEL BLK CS-F9-J
8-6	SB316316	BUTTON (B)
8-7x	SB316317	BUTTON (B-BL)
8-8	SK321500	LEVER KNOB (A)
8-9x	SK321501	LEVER KNOB (A-BL)
8-10	SB316498	BUTTON (B)
8-11x	SK328387	LEVER KNOB (JPN)
8-12x	SB316499	BUTTON (B-BL)
8-13	SK307963A	KNOB SLIDE
8-14x	SK328391	SLIDE KNOB (JPN)
8-15x	SK307963B	KNOB SLIDE (BL)
8-16	SP328471	UPPER COVER (A)
8-17x	SP328472	UPPER COVER (A-BL)
8-18	ZS315878	XST BID40x08STL NI3
8-19x	ZS310588	XST BID40x08STL BNI (BL)
8-20	SK323822	DOUBLE KNOB (UPPER)
8-21x	SK200649	DOUBLE KNOB (UPPER-3) (JPN)
8-22x	SK323823	DOUBLE KNOB (UPPER-BL)
8-23	SK321506	DOUBLE KNOB (LOWER)
8-24x	SK325787	DOUBLE KNOB (LOWER) (JPN)
8-25x	SK321507	DOUBLE KNOB (LOWER-BL)
8-26x	SP307983	BACK BOARD CS-F9 (U)
8-27x	SP328215	BACK BOARD CS-F9-J (JPN)
8-28x	SP307984	BACK BOARD CS-F9 (C)
8-29x	SP307985	BACK BOARD CS-F9 (E)
8-30x	SP307986	BACK BOARD CS-F9 (B, S)
8-31x	ZS225134	T2PAN30x10STL CMT PW080

INDEX

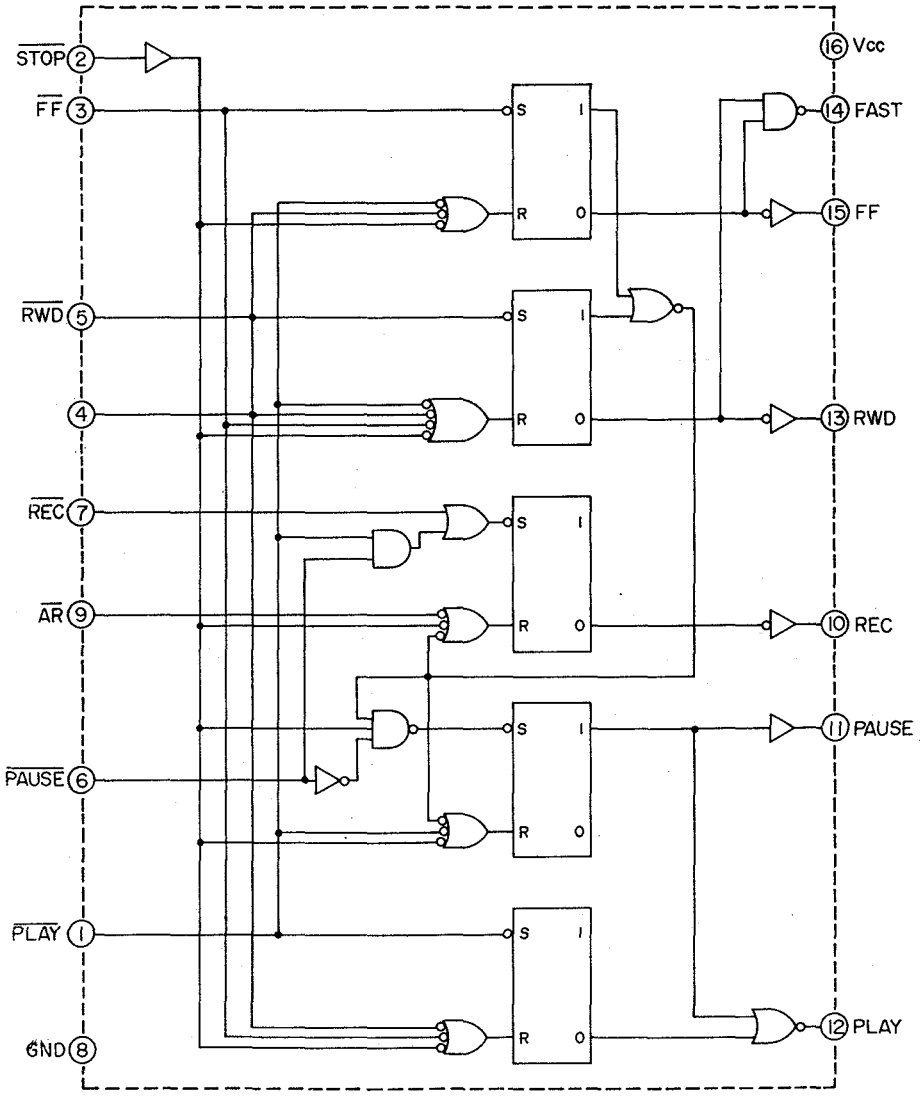
Parts No.	Ref. No. & Symbol No.	Parts No.	Ref. No. & Symbol No.	Parts No.	Ref. No. & Symbol No.	Parts No.	Ref. No. & Symbol No.	Parts No.	Ref. No. & Symbol No.
BAT2013A070C	4-2	EF309392	7-30x	ET324134	6-TR19	SP328472	8-17x		
BAT2035A070A	4-1	EF311839	7-28	ET324134	6-TR22	SZ329519	7-19		
BAT2035A150A	6-1	EF601964	7-34x	ET328437	4-TR5	SZ631945	7-16		
BDT2013A130E	8-5x	EF602550	7-33x	ET328437	4-TR12	TCT2016A410A	3-27		
BDT2035A100A	8-3	EF668474	7-35x	ET328437	6-TR15	TC328344	3-45		
BDT2035A100B	8-4x	EI308936	5-IC1	ET328437	6-TR13	TC328348	3-47		
BDT2035A110A	8-1	EI329411	3-15	ET328438	5-TR20,21	TC328350	3-49		
BDT2035A110B	8-2x	EI330113	6-IC1	ET328438	6-TR9,10	TC328351	3-50x		
BF330095	3-34	EI430661	5-IC2	ET328438	6-TR12	TC330098	3-37		
BHT2035A060A	3-1x	EI430661	6-IC2	ET328438	6-TR14	TC330099	3-38		
BL-328426	2-4	EI605013	4-IC1	ET328440	5-TR35	ZG312943	3-25		
BL328427	3-33	EJ307800	4-J1	ET375603	5-TR37	ZG312945	2-12		
BMT2015A130A	3-11	EJ308986	4-J3	ET375603	6-TR4	ZG312946	3-9		
BMT2016A320A	2-13	EJ316156	4-J2	ET539122	4-TR21	ZG312997	3-10		
BR328517	2-1x	EJ321328	4-J1	ET554657	5-TR12,13	ZG321487	3-51		
BR328424	2-5	EJ324276	7-1	ET554657	5-TR19	ZG324329	3-44		
BR328425	2-9	EJ692908	7-17x	ET554657	5-TR1	ZG328305	3-6		
BT328401	7-4	EL200096	3-14	ET554657	6-TR16,17	ZG328352	3-41		
BT328402	7-5x	EM328722	7-20x	ET554657	6-TR11	ZG328361	2-2		
BT328403	7-7x	EM329497	7-18	ET554657	6-TR6to8	ZG329433	3-18		
BT328404	7-6x	EO310608	4-VL1	ET603257	4-TR1to4	ZS225134	8-31x		
BT328405	7-8x	EO315758	4-FL3	ET639437	5-TR2,3	ZS303936	3-4		
BZT2016A290A	3-16	EO315758	4-FL4	ET639437	5-TR7,8	ZS306021	7-23		
BZT2016A330A	2-15	EO328485	4-T1	ET639437	5-TR34	ZS310588	8-19x		
BZT2016A430A	3-28	EP328419	3-22	ET639437	5-TR32	ZS313486	7-25		
BZT2016A430B	3-29x	EP328420	3-20	EV202110	7-2	ZS314702	7-9		
EC200983	4-C20	EP328529	4-SW5	EV315413	4-VR1	ZS315878	8-18		
EC201021	4-C55	ER201584	5-FR1	EV315413	4-VR6	ZS321338	3-12		
EC307258	4-C13	ER201584	6-FR1	EV315414	4-VR7	ZS325495	7-26		
EC307560	5-C29	ER325381	4-FR2	EV315755	4-VR3	ZS328347	3-54		
EC311867	4-C82	ER328490	4-FL1	EV321637	4-VR5	ZS329443	3-53x		
EC314688	5-C33	ER328491	4-FL2	EV322416	4-VR2	ZS329445	3-52		
EC316150	4-C81	ER328520	4-FR1	EV329416	7-3x	ZS430413	2-14		
EC320548	5-C33	ES201235	3-39	EV330318	4-VR3	ZS590804	3-3		
EC320548	6-C24	ES201236	3-40x	EW201515	7-15x	ZS608106	3-7		
EC325380	4-C56	ES201314	4-SW3	EW305691	7-12x	ZW201610	2-10		
EC327382	5-C33	ES310839	5-SW1	EW306427	7-11x	ZW270088	2-3		
ED200468	4-D15	ES315159	6-SW1	EW306428	7-10	ZW270088	3-21		
ED200468	4-D19	ES315748	4-SW4	EW313882	7-13x	ZW270101	3-8		
ED200468	4-D9 to 12	ES328416	3-19	EW313884	7-14x	ZW290283	3-17		
ED200469	4-D4 to 08	ES328430	3-26	HW321585	3-2	ZW305546	2-7		
ED200469	4-D2	ES328530	4-SW2	HP201806	3-5	ZW309295	3-35		
ED200469	4-D18	ES655806	5-SW1	MB282104	2-11	ZW329448	3-42		
ED200469	4-D19	ET200479	4-TR21	MB282778	3-13	ZW536466	2-6		
ED306109	5-D20,21	ET200505	4-TR22	MB328324	3-48				
ED306109	5-D11,12	ET200505	4-TR13	MB330097	3-36				
ED306109	6-D5,6	ET200596	4-TR23	MC328723	3-30				
ED306109	6-D28	ET200985	4-TR6	MC328725	3-31x				
ED306109	6-D10,11	ET200985	4-TR9 to 11	MLB328513	3-23				
ED306109	6-D15,16	ET200985	4-TR16to19	ML328337	3-43				
ED308945	5-D41	ET200985	6-TR5	MPB319580	3-24				
ED308953	4-D1	ET200985	6-TR2	MT305793	2-8				
ED313846	5-D37	ET200985	6-TR18	MV328322	3-32				
ED316143	5-D16	ET200985	6-TR24to33	MV368886	3-46				
ED316143	6-D7,8	ET200985	6-TR21	MZ283140	5-VS1				
ED319167	5-D39	ET200986	4-TR8	SA202118	7-24				
ED321180	6-D4	ET201580	4-TR20	SB316316	8-6				
ED322982	4-D16,17	ET201580	6-TR3	SB316317	8-7x				
ED328486	4-D3	ET201801	4-TR14	SB316498	8-10				
ED328700	4-D14	ET301154	4-TR7	SB316499	8-12x				
ED329449	5-D40	ET301154	4-TR15	SE325784	7-21x				
ED329449	6-D3	ET301154	5-TR33	SK200649	8-21x				
ED329449	6-D24	ET301154	6-TR1	SK307963A	8-13				
ED330319	6-D2	ET303697	4-TR24	SK307963B	8-15x				
ED330987	5-D42	ET307349	4-TR15	SK321500	8-8				
ED330987	6-D1	ET307349	4-TR7	SK321501	8-9x				
ED560913	5-D22 to 36	ET308141	5-TR24to30	SK321506	8-23				
ED560913	5-D38	ET308141	5-TR14to18	SK321507	8-25x				
ED560913	5-D1 to 10	ET308141	5-TR38	SK323822	8-20				
ED560913	5-D17 to 19	ET308937	5-TR36	SK323823	8-22x				
ED560913	5-D13 to 15	ET308937	5-TR10	SK325787	8-24x				
ED560913	6-D17 to 23	ET308937	5-TR5	SK328387	8-11x				
ED560913	6-D29	ET309353	5-TR11	SK328391	8-14x				
ED560913	6-D12 to14	ET309353	5-TR6	SP307983	8-26x				
ED560913	6-D25 to 27	ET309353	6-TR20	SP307984	8-28x				
ED560913	6-D9	ET309353	6-TR23	SP307985	8-29x				
EF306949	7-27	ET319638	5-TR22,23	SP307986	8-30x				
EF308847	7-31x	ET321016	4-TR24	SP328215	8-27x				
EF308848	7-32x	ET324134	5-TR9	SP328379	7-22				
EF309389	7-29	ET324134	5-TR4	SP328471	8-16				

SECTION 3

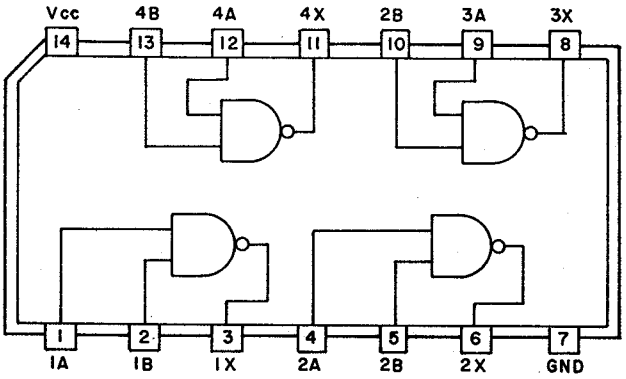
SCHEMATIC DIAGRAM

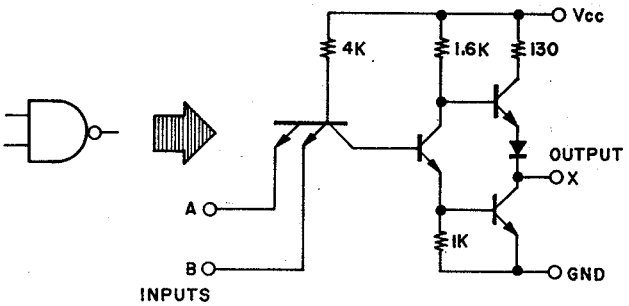
1. SCHEMATIC DIAGRAM OF ICs
2. CS-F9 No.2-1 1620662A AMP SCHEMATIC DIAGRAM
3. CS-F9 No.2-2 1620663A POWER & SYSCON SCHEMATIC DIAGRAM
4. CS-F9J No.2-1 1620664A AMP SCHEMATIC DIAGRAM
5. CS-F9J No.2-2 1620665A POWER & SYSCON SCHEMATIC DIAGRAM

M54410P

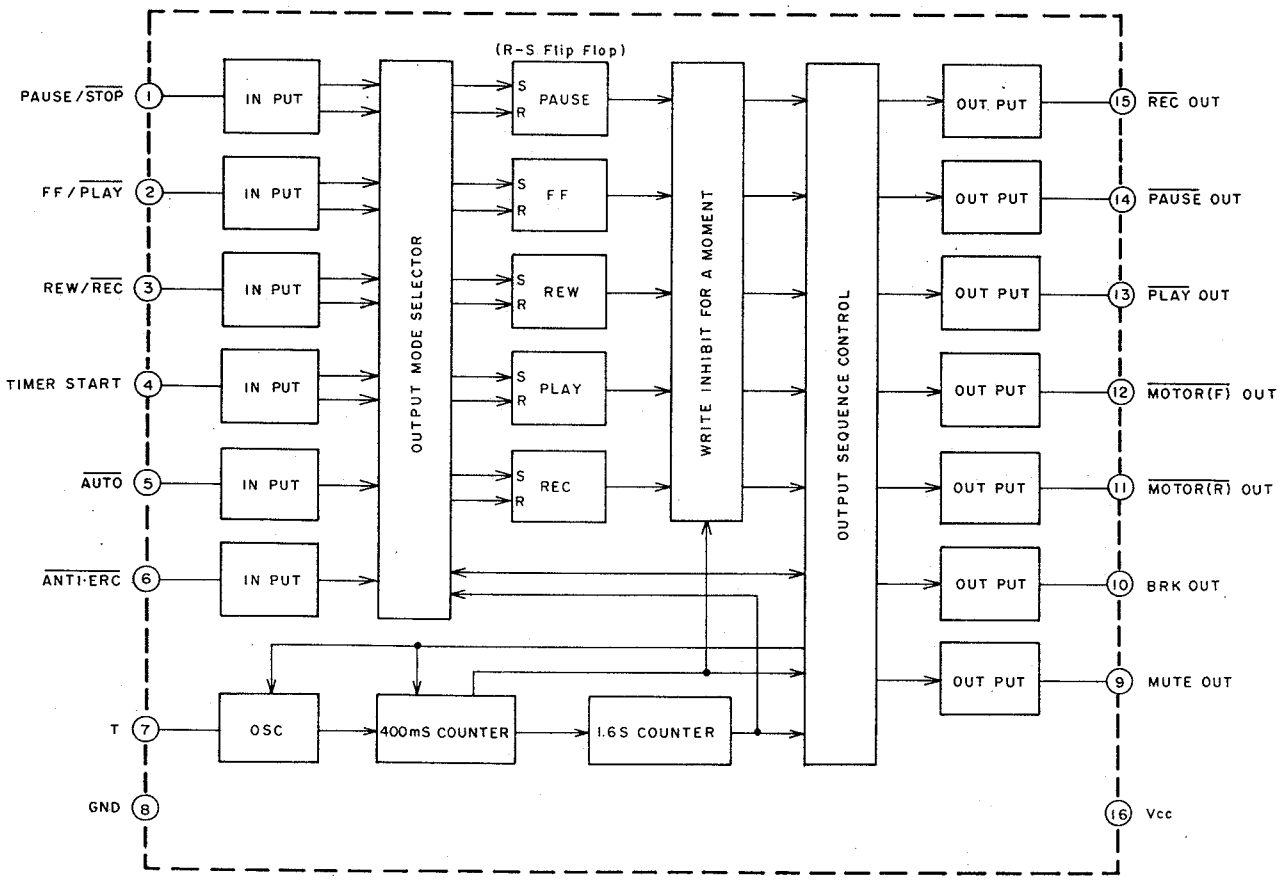


M53200P

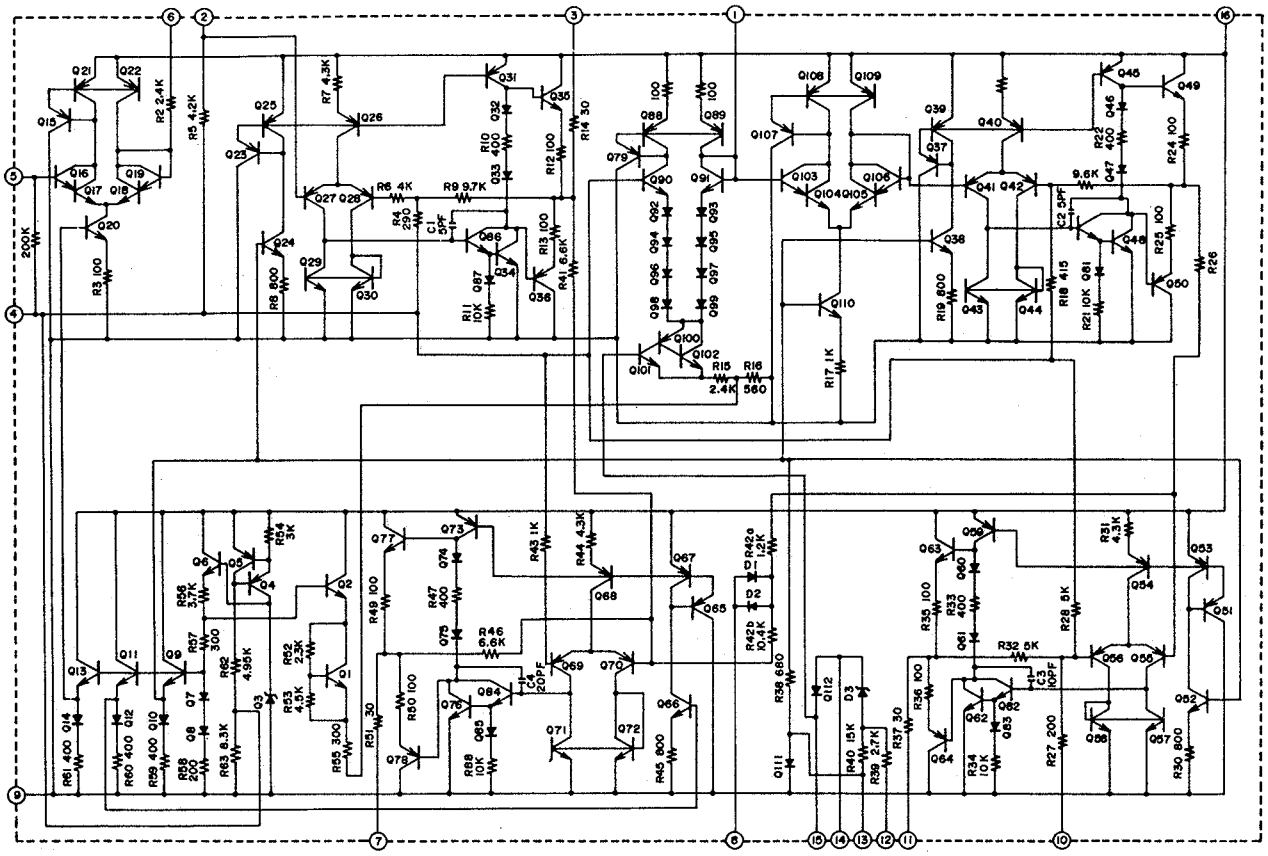




M54886P



NE545B



CS-F9

LEFT

RIGHT

REC/PB HEAD

VOLUME PCB CL-5401B 1/2

REC LEVEL

TAPE SELECTOR

DOLBY NR

FILTER

MIC-L

MIC-R

LINE IN

LINE OUT

IC1 NE545B

TR5 2SD1012V(F,G) TR3,4 2SC1312S(G)(H) TR7 2SD794(P,Q) TR24 2SK117(G)(R) TR6 2SC2603(F)(G) TR22 2SC2603(E)(F)

TR1,2 2SC1312S(G)(H) TR12 2SD1012V(F)(G) TR13 2SC2603(E)(F) TR14 2SA830 TR15 2SD794(P)(Q) TR16 2SC2603(F)(G) TR17,18 2SC2603(F)(G)

TR20 2SD894 TR19 2SC2603(F)(G) TR21 2SA733A(P)(Q)(R)

TR10,11 2SC2603(F)(G) TR9 2SC2603(F)(G) TR8 2SD863-V8(F)

IN901 LT-1003

LED LEVEL METER

ERASE HEAD H902 HF21315I

POWER SUPPLY & SYSCON PCB

PRE AMP PCB CL-5401A

( ) INDICATES VOLTAGE AT REC MODE

& REC MODE		NORMAL	CrO2	METAL
TR14	B	6.2V	8.5V	13.0V
	E	6.4V	8.3V	11.9V
	C	0V	0V	0V
TR15	E	6.4V	8.3V	12.1V
TR16	B	7.5V	9.4V	13.2V
	E	7.0V	8.9V	12.7V
TR17	C	16.4V	16.2V	15.9V
TI	3	0V	0V	0V
	5	34.6VAC	46.4VAC	69.5VAC
	6	42.4VAC	56.8VAC	85.1VAC

2SC2603 2SD1012V

2SA733 2SA830

2SD863

2SC1312S

2SK117

2SD794 2SD894

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/4W (J)
ALL CAPACITORS IN μF 50 WV (J)
(LL) = LOW LEAKAGE CAPACITORS

WARNING: △INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSEMENT: △IL INDIQU LES COMPOSANTS CRITIQUES DE SÛRETÉ. POUR MAINTENIR LE DEGRÉ DE SECURITE DE L'APPAREIL NE REMPLACER LES CONPOSANTS DONT LE FONCTIONNEMENT EST CRITIQUE POUR LA SECURITE QUE PAR DES PIECES RECOMMANDEES PAR LE FABRICANT

CS-F9 AMP SCHEMATIC DIAGRAM

NO. 2-1 1620662A

CS-F9

REMOCON PCB

(U) CL-5402B

(A) CL-5404B
(EBS) CL-5405B
(C) CL-5406B

POWER SUPPLY & SYSCON PCB (C) CL-5406A (CSA)

POWER SUPPLY & SYSCON PCB (EBS) CL-5405A

LAMP PCB CL-5009

DETECTOR PCB CL-5010

FILTER PCB CL-5026

POWER SUPPLY & SYSCON PCB (J) CL-5413A

THE VOLTAGE MEASURED AT STOP MODE

TR1,16,17 2SA733(P,Q)
TR2,14 2SB808(F,G)
TR3,15 2SD1012(F,G)
TR18,21 2SC2603(F,G)
TR19,22 2SA984K(E,F)
TR20,23 2SC2274K(E,F)

D7 to 9, 12 to 14, 19 to 23, 25, 29 1S2473VE

TR24 to 30 2SC2603(F,G)

TR31 to 33 2SC2603(F,G) D26,27 1S2473VE

WARNING: ⚠INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSEMENT: ⚠IL INDIQU LES COMPOSANTS CRITIQUES DE SÛRETÉ. POUR MAINTENIR LE DEGRE DE SECURITE DE L'APPAREIL NE REMPLACER LES CONPOSANTS DONT LE FONCTIONNEMENT EST CRITIQUE POUR LA SECURITE QUE PAR DES PIECES RECOMMANDEES PAR LE FABRICANT

001184

CS-F9J
POWER & SYSCON SCHEMATIC DIAGRAM
NO. 2-2 1620665A